C. E. BARTHELL
MEDICAL BOOKS
ANN ARBOR, MICH.

MANUAL

OF

PSYCHIATRY.

BY

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AUTHORIZED TRANSLATION FROM THE FRENCH

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FIRST EDITION.

FIRST THOUSAND.

NEW YORK:

JOHN WILEY & SONS.

LONDON: CHAPMAN & HALL, LIMITED.

1905.

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ROBERT DRUMMOND, PRINTER, NEW YORK.

TRANSLATOR'S PREFACE.

THE new classification of mental diseases introduced by Kraepelin has met with much opposition from the medical profession in general, although a great many alienists have adopted it. Since this classification is based upon no firmer foundation than the empirical one of clinical observation, it cannot be doubted that from a strictly pathological standpoint some of the groups are quite heterogeneous, and that ultimately further subdivisions, changes in the grouping, and additions will be necessary. But to the practical alienist the advantage of Kraepelin's classification over the older ones is very considerable. By a careful examination of the history and of the physical and mental status the alienist is now able in the majority of instances to assign his case to one or the other of the great groups and thus to determine the prognosis with a greater degree of certainty and accuracy than was possible formerly. This constitutes the chief advance of the Kraepelin school; and it is the result not of the changes in the nomenclature, but of an essential departure in the methods of taking the mental status and in the interpretation of the manifestations of the diseased mind.

Diagnostic difficulties, of course, arise as they do in

all clinical work; but a really serious drawback lies in the fact that a considerable proportion of any series of consecutive cases is found to be unsuitable for inclusion in any of the groups; whether these cases are *formes frustes* of the different morbid entities or whether they are really conditions which are not covered by this classification cannot at present be determined.

A word to the beginner in psychiatry. The nomenclature and methods of the insanity clinic differ so greatly from those of general medicine that the average student will find the chapter on special psychiatry almost unintelligible without a careful preliminary study of those on general psychiatry. This is the case with this more than with most other similar works, since for the sake of brevity no detailed descriptions of the individual psychoses are given in the second part; there is in most cases a mere mention of the symptoms, for the recognition and interpretation of which the student is referred to the first part.

The translator has tried to follow closely the text of the French original. Several slight changes have, however, been found necessary.

The French insanity law has been omitted. The specimens of insane utterances showing *incoherence* and *flight of ideas* have been obtained from the clinical records of cases at the Long Island State Hospital at Kings Park, N. Y., as it was found impossible to make a satisfactory translation of the French specimens.

The translator's notes throughout the book are enclosed in brackets.

A. J. ROSANOFF.

KINGS PARK, N. Y., January 1905.

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INTRODUCTION.

PSYCHIATRY is that branch of neurology which treats of mental disorders and of the organic changes associated with them.

Mental disorders arrange themselves in two fundamental categories, characterized respectively by *insufficiency* and *perversion* of the intellectual or moral faculties.

Insufficiency may be either *congenital* or *acquired.* In the first case it constitutes an arrest of development; in the second, psychic paralysis. When the psychic paralysis is temporary, causing a suspension, but not a destruction, of mental activity, the name psychic inhibition is applied to it; on the other hand, when it is permanently established, it constitutes intellectual enfeeblement or dementia.

Perversion of the intellectual and moral faculties may also be *congenital* or *acquired.* Generally it results from an exaggeration of the mental automatism, and is designated by different terms, depending upon the particular function affected: hallucinations, delusions, morbid impulses, etc.

Mental diseases or *psychoses* are affections in which the mental symptoms constitute a prominent feature. They differ from such mental infirmities as idiocy, moral insanity, and many states of dementia, in that they are expressions of active pathological processes and not of permanent and fixed alterations of the mind.

Psychic infirmity, when not congenital, occurs as the ultimate outcome of some mental disease. The relation between the two conditions is analogous to that which exists between ankylosis of a joint and the arthritis which produced it; the latter is a disease, the former an infirmity.

When mental symptoms appear to exist alone, the mental disease is said to be *idiopathic*, and is called a *vesania;* when they are associated with alterations of the organic functions the disease is said to be *symptomatic* or *secondary*. This distinction is superfluous, and the subdivision resulting from it is artificial. In fact, the more the efforts of alienists are directed to the study of the coexisting somatic disturbances, the more restricted does the number of the vesanias become. The psychopathic processes which Kraepelin has designated by the term dementia præcox have for a long time been classified under various headings among the vesanias. Now, the number of physical signs observed in this affection (disorders of the tendon and pupillary reflexes, of the internal secretions, and of the general nutrition) is increasing from day to day; dementia præcox is therefore looked upon not as a purely mental affection, but as an affection of the entire organism with concomitant manifestations which are *chiefly*, but not

exclusively, mental. Such is also the case with primary mental confusion and with the melancholias, and the time is not remote when, with great benefit to psychiatry, the conception of the vesanias will be relegated to history.

Two terms still remain for us to define: *mental alienation* and *insanity*. Although they are often employed indiscriminately, their meaning is not absolutely identical.

Etymologically, an alienated (Lat. *alienus*) individual is one who has become "estranged" from himself, who has lost the control of his intellectual activity, who, in other words, is not responsible for his actions. Unfortunately this definition rests upon the metaphysical conception of the free will and cannot find a place in medical science, which must be based upon observation and must adhere to demonstrable facts.

It is better to adopt an essentially practical definition, as has been done by most modern alienists, and to designate by the term mental alienation the entire class of pathological states in which the mental disorders, whatever their nature be otherwise, present an antisocial character. Not every individual suffering from a psychic affection is necessarily alienated. This term can be applied only to those who, on account of some mental disease or infirmity, are likely to enter into conflict with society and to find themselves, in consequence, unable to be an integral part of it.

The term *insanity* has a more restricted meaning than mental alienation. Generally it is applied to states of mental alienation which result from a psychosis, i.e., in which the mental disorder is an expres-

sion of an active pathological process. An idiot or a dement is alienated but, except in cases presenting complications, not an insane person.

This manual is divided into two parts. The first part treats of general psychiatry and comprises a study of the causes, symptoms, and treatment of mental disorders, considered independently of the affections in which they are encountered. The second part is devoted to special psychiatry, that is to say to the study of the individual psychoses. It has been thought advisable to devote a considerable space to general psychiatry, at least as far as the limits of this work would allow. A precise if not an extensive knowledge of the most important elementary psychic disturbances would seem to be altogether indispensable for a full understanding of the genesis and evolution of the psychoses.

MANUAL OF PSYCHIATRY.

PART I.

GENERAL PSYCHIATRY.

CHAPTER I.

ETIOLOGY.

"On studying closely the etiology of mental diseases one soon recognizes the fact that in the great majority of cases the disease is produced—not by a particular or specific cause, but by a series of unfavorable conditions which first prepare the soil and then, by their simultaneous action, determine the outbreak of insanity." [1]

An individual of neuropathic ancestry and himself tuberculous, alcoholic, and exhausted, has an attack of melancholia. Shall we attribute the attack to the *exhaustion, alcoholism, tuberculosis,* or *heredity?* It is probable that all these enter into the causation of the

[1] Griesinger. *Die Pathologie und Therapie der Geisteskrankheiten.*

attack, but it is difficult to determine the part played by each of them and to isolate the specific pathogenic agent. While it is justifiable to distinguish theoretically predisposing causes and determining causes in psychiatry, it is very difficult to decide whether any given cause belongs to the one or to the other group. The same pathogenic agent, for instance alcohol, may in one case create a predisposition which is brought into play by some subsequent causative factor; in another case it merely brings out pre-existing predisposition.

The subdivision of the causes of mental diseases into two groups, one comprising the *predisposing* causes and the other the *determining* causes, is therefore merely schematic. But as it has many advantages from a didactic standpoint, it is adopted in this work, the reader being again reminded that such subdivision is more or less arbitrary.

§ 1. Predisposing Causes.

"Mental diseases require for their development a soil in an especially modified condition of long standing." [1] The mind does not succumb to the pathogenic action of the causes which we shall study later on as *determining* causes, unless its power of resistance is below the normal. A predisposition, latent or apparent, congenital or acquired, is necessary for a mental disease to originate and develop. Properly speaking, psychoses of the *cerebrum validum* do not exist. The predisposing

[1] Joffroy. *De l'aptitude convulsive.* Gazette hebdomadaire de médecine et de chirurgie, 11 février 1900.

causes therefore play an essential part in the etiology of mental diseases. They are classified into *general* and *individual*.

General predisposing causes. — The action of the general predisposing causes is exerted upon communities, and not upon isolated individuals. They are: race, climate, social position, occupation, age, sex, and civil condition.

The influence of *race* [1] in the causation of psychoses is little known on account of the absence of sufficient statistical data. The Hebrew race is said to furnish a large proportion of neuropaths and psychopaths. It seems that among some races certain psychoses are particularly rare; thus general paresis is of very exceptional occurrence among Arabs and African negroes.

The study of *climate* likewise gives us but little definite information. While it is indisputable that certain affections, such as cretinism, appear most frequently in certain countries (Valais), it is on the other hand altogether conjectural that the inhabitants of mountainous regions are more liable to insanity than those of the plains, as has been stated by some authors.[2]

A priori it seems likely that the climate of warm countries exerts a debilitating influence upon the nervous system and thus favors the development of mental

[1] Buschan. *Einfluss der Rasse auf die Häufigkeit von Geisteskrankheiten.* Read at the Convention of German alienists at Dresden, 1894.—Meilhon. *La folie chez les Arabes.* Annales médico-psychologiques, 1896, T. III et IV.—Goltzinger. *Les maladies mentales en Abyssinie.* Revue russe de psychiatrie, 1897, No. 33.—Duncan Greenlers. *Mental diseases among the natives of Southern Africa.* The Journal of Mental Science, 1895.

[2] Lombroso. *L'homme de génie.*

disorders, especially in Europeans. I have found no statistics proving this; but an argument in favor of this supposition appears to me to be in the fact that a much larger number of suicides occurs in French and English troops while stationed in tropical countries than while living in Europe. While in France itself the number of suicides in the army is 29 per 100,000 soldiers, in Africa it rises to 69 for the same number of men. In the English army the proportion is 23 to 100,000 in the British Isles, and 48 in India.[1]

The influence of the *seasons* has been more carefully studied. According to Garnier,[2] who has taken for the basis of his work the number of admissions to the special infirmary of the poorhouse from 1872 to 1888, the frequency of mental alienation attains its maximum in June, and its minimum in January. During spring the number of admissions rises, to fall again during the latter part of summer and during autumn. The heat is evidently not the only factor, since the greatest number of cases does not correspond with the highest temperature of the year.[3]

It is interesting to note the almost complete parallelism existing between the annual curve of mental alienation and that of suicide. The statistics of Jeck,[4] based

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[1] *Archives de médecine et de pharmacie militaire*, Nov. 1892.

[2] Garnier. *La folie à Paris*, 1890, p. 18.

[3] "I intentionally omit the discussion on the action of the atmospheric conditions, which is but little known. Stormy weather favors the occurrence of agitation in the insane. . . . As to the influence of the lunar phases, it is, to say the least, entirely hypothetical." V. Toulouse. *Causes de la folie*, p. 147.

[4] *Selbstmord und Jahreszeit*. Frankfort Gazette, Sept. 24, 1898. Reviewed in *Centralblatt für Nervenheilk. u. Psychiat.*, Dec. 20, 1898.

upon about 100,000 cases of suicide, show us that the highest point of the curve is in June and the lowest point in February, exactly as it is in the case of mental alienation.

Social factors play an important rôle in the etiology of mental diseases, as may be seen from a study of the history of the negro race in America. Before their emancipation the negroes were forced to hard labor, but were beyond the intense struggle for existence, had no cares, and were governed by rigorous rules of morality; in those times they were almost totally exempt from mental disorders. "Insanity was almost unknown among them." [1] Since their emancipation, having been given not only the rights but also the burdens of free men, they have abandoned themselves without restraint to all excesses, and mental alienation has become implanted in their race, so that in this respect they have now nothing to envy their former masters.

Civilization, by the stress that it imposes upon individuals, by the physical and moral want that is hidden beneath its brilliant exterior, and by the constantly increasing migration of the inhabitants of the country toward the large cities, which it brings about, contributes to the production of predisposition to insanity. It is therefore not surprising that the number of insane is constantly increasing in the so-called civilized countries. However, this increase is not as considerable as it appears at first glance; for its accurate estimation it is necessary to keep in mind two factors that are

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[1] Witmer. *Geisteskrankheiten bei der farbigen Rasse in den vereinigten Staaten.* Allgemeine Zeitschrift für Psychiatrie, 1891.

often neglected, viz., the increase of the population, and the housing of patients, many of whom in former times lived at large and did not enter into the statistics. It is well, therefore, while recognizing the serious character of this increase, not to exaggerate its extent.

According to Esquirol's statistics the number of unmarried insane exceeds that of the married ones. Tolouse states that many individuals remain single because they are already abnormal, and in many cases they subsequently become insane. Celibacy itself cannot therefore be incriminated; marriage, on the contrary, brings into play certain factors favoring the development of mental disorders,—in men by the increased strain imposed upon them, and in women by the various accidents which motherhood entails.[1]

Illegitimate children seem to be more liable to insanity than legitimate ones. This is partly due, undoubtedly, to the anomalous situation in which society places these unfortunates; but in many cases there is also a hereditary influence. It is probable that the parents of illegitimate children are often abnormal (Joffroy).

All *ages* do not equally predispose to insanity. Though rare in childhood, by reason of the rudimentary state of the psychic functions, mental disorders are, however, not unknown in that period of life.[2] Insanity attains its maximum of frequency between the ages of thirty-

[1] The influence of the puerperal state is to be considered later on with some detail.

[2] Manheimer. *Le troubles mentaux de l'enfance*, 1900.—Rodiet, *L'alcoolisme chez l'enfant.*

six and forty years among men,—when the struggle for existence is most intense,—and between the ages of twenty-five and thirty-five years among women,—when the burdens of maternity are greatest.

Two other periods of physiological development present an increased predisposition to insanity; one corresponds with the age of puberty (from fourteen to twenty-four years),[1] the other with the onset of senility (seventy years, according to Ziehen).[2] Finally, in women an increased predisposition is noticed at the period of the menopause.

In a word, all those periods of life which involve a strain of the organism expose the individual to mental disorders, whether such strain be due to the physiological development of the organism or whether it be imposed upon it by the exigencies of life.

The *occupations* involving the use of certain poisons (lead, phosphorus) may under unhygienic conditions favor the appearance of insanity.[3] Railroad employees furnish a large proportion of general paretics. Perhaps, as Huppert says, the constant jarring of the nerves due to the vibration of the cars is to be held responsible for this; or it may be due to the heavy responsibility which rests upon the employees of even the lowest grades, as is suggested by Sprengeler; or possibly it is to be attributed to the alcoholic excesses so frequent among this class of people.[4]

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[1] Ziehen. *Les psychoses de la puberté.* Congrès internat. de médecine, Paris, 1900.—Marro. *Les psychoses de la puberté.* Ibid.

[2] Ziehen. *Psychiatrie,* p. 210.

[3] Quenzell. *Ueber Bleipsychosen.* Neurologisches Centralblatt, 1899.

[4] Hoppe. *Beitrag zur Kenntniss der progressiven Paralyse.* Allgemeine Zeitschrift für Psychiatrie, Vol. 58, No. 6.

Physical and moral want, isolation, and *absence of steady occupation* are among the predisposing factors, and often constitute potent causes of relapse in recovered patients discharged from asylums.

The number of insane is almost the same in the two *sexes.* While certain etiological factors, such as stress and alcoholism, predominate in the male sex, the puerperal state and lactation in the female sex reestablish the equilibrium. Possibly the number of insane women even slightly surpasses that of insane men.

Individual predisposing causes. — The predisposition to contract mental disease is but one of the manifestations of a more general pathological condition which has been designated by the term *degeneration.* Degeneration affects the entire organism and constitutes under its different forms—psychopathies, neuropathies, arthritic manifestations, etc.—the feature of a large pathological class in which the insane constitute but a simple group.

The predisposition may be *congenital* or *acquired.* Though, as is more frequently the case, degenerates are such from the day of their birth, still one may become one of that class later on in life, as a result of infectious diseases, of intoxications, or possibly of a defective mental and physical education.

"*Congenital predisposition* exists in more than half or in about two-thirds of the insane."[1] A morbid heredity constitutes its most frequent cause, but not the only one. Many authors confound hereditary with

[1] Morselli. *Manuale delle malattie mentali,* p. 38.

congenital predisposition; wrongly, however, for "One may be a congenital degenerate, yet not one by heredity." [1] By heredity is understood the existence in the ascendants of a normal or pathological peculiarity which is transmitted to the descendant. But, for instance, a mother suffering from Bright's disease, and without psychopathic taint, may give birth to a degenerate son, predisposed to mental alienation. This would not be a case of hereditary predisposition in the true sense of the word, and still it is one of congenital degeneration.

Heredity is *direct* when it passes from the parent to the offspring; *atavistic* when it skips a generation; *collateral* when the direct ascendants have been spared but the defect is found in one or several collateral relatives. It is *similar* when the anomaly present in the descendant is the same as that in the ascendant; in the opposite case it is *dissimilar*. The latter form is by far the most frequent, for, as Hunter says, "There are, properly speaking, no hereditary diseases, but only a hereditary predisposition to contract them." All possible evidences of degeneration are observed among the ascendants and the collateral relatives of the insane: neuroses, psychoses, organic nervous diseases, defects of character and morals [criminality], arthritic manifestations, gout, diabetes, etc.

Heredity is *convergent* when the father and the mother both belong to families of degenerates. The relative frequency of this form reveals the curious fact that there is a peculiar mutual affinity among psychopaths (Féré).

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[1] Féré. *La Famille névropathique*, p. 38. Paris, F. Alcan.

A priori this accumulated degeneration would seem to give rise to particularly grave consequences. At times it produces genius.

It is to convergent heredity that the bad influence of consanguinity is to be attributed. Consanguineous marriages do not create the defects, as is the general belief among the laity; they merely accentuate the tendencies of the family, whether these tendencies be good or bad, and therefore cannot exercise a bad influence except in degenerate families.[1]

Degeneration has, according to Morel, a tendency to become more pronounced from generation to generation. The final product of this retrogressive evolution is the *idiot*, who, sexually sterile, or placed in social positions which prevent his leaving a posterity, constitutes the last offspring of the degenerate race. This progressive march is quite frequently encountered.[2] The law of Morel[3] is, however, not absolute; degeneration may be effectively combated in the individual by appropriate physical and moral hygienic measures, also by favorable intermarriages. If all families presenting hereditary defects were doomed to decay and death, the human species would long ago have become extinct.

Degeneration, without being hereditary, may result from a pathogenic influence acting upon one of the parents at the moment of conception, or upon the mother during pregnancy. Thus endogenous or exogenous, acute or chronic *intoxications*, infectious diseases,

[1] Peiper. *Consanguinität in der Ehe und deren Folge für die Descendenz.* Allg. Zeitschr. f. Psych., Vol. 58, No. 5.

[2] Doutrebente. Ann. méd. psych., 1869, II, p. 385.

[3] Morel. *Traité des maladies mentales*, p. 575.

stress and violent emotions, by their action upon the parents, often become causes of degeneration. *Chronic alcoholism* is encountered with particular frequency in the parents of psychopaths and neuropaths; it produces all possible forms of degeneration, but creates more particularly a special morbid disposition which Joffroy has termed the *convulsive tendency*. Many children of alcoholic parents die of convulsions at an early age, and of those who survive more than 50% become epileptics.[1]

Infectious diseases and traumatisms sustained by the mother during pregnancy often exert a harmful influence upon the psychic development of the offspring; and the same is the case with physiological privations, painful emotions, etc. The "children of the siege"—those of the Parisian population who were born just after the siege of Paris and the Commune—furnished a very large proportion of individuals predisposed to insanity.

In the cases of *twin pregnancy*,[2] the influence of the factors of degeneration manifests itself frequently in an identical manner in the two children, who present at the same age the same mental disorders.[3] It is probable that twin pregnancy is in itself a cause of degeneration, the nutrition of two fœtuses being effected under less favorable conditions than that of a single fœtus.

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[1] See statistics of Martin quoted by Joffroy. *De l'aptitude convulsive*. Gazette hebdomadaire de médecine et de chirurgie, 11 février, 1900.

[2] Serge Soukhanoff. *Sur la folie gémellaire*. Ann. med. psych., sept.–oct. 1900.

[3] The same similarity may be observed in children of the same family independently of twin births. (Trénel. *Maladies mentales familiales*. Ann. méd. psych., janvier, 1900.—Fouqué. *Maladies mentales familiales*. Thèse de Paris, 1899.)

All the causes here enumerated, including heredity, act upon the germ, the embryo, or the fœtus, producing an anomaly of development. The pathogenic influence is exerted not only upon the nervous system, the resistance of which is reduced and the development impeded, but upon the entire organism, bringing about the malformations which we shall study later on,—the physical signs of degeneration.

Each of the causes which we have enumerated can produce all the forms of degeneration, and it is consequently impossible to determine the character of the degenerative disorder from a study of the pathogenic agency which caused it. This proves the fact that the pathogenic agent, "whatever be its nature, always acts in the same manner," namely, "by diminishing the embryogenic energy." "There is therefore nothing surprising in the fact that degenerates by heredity do not differ from those by parental nutritive disorders, since degeneration results generally from disorders of embryogenesis, which are ultimately reduced to disorders of nutrition." [1]

Acquired predisposition results from the influence of the same causes which bring about congenital predisposition.[2] But its action is exercised directly upon the individual, instead of indirectly, through the medium of his progenitors. The younger the subject the more deep-rooted and durable is the predisposition which he acquires. The infectious diseases and the nutritive disorders of *infancy* frequently give rise to cerebral and

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[1] Féré. *Loc. cit.*, p. 231.

[2] Toulouse. *Les causes de la folie*, p. 30.

meningeal complications which result in convulsions and impede the development of the nervous system, thus causing either an actual defect or a predisposition which may not become manifest until much later in life, in some cases not before senility.

Finally, predisposition may be acquired during *youth* or *adult age*. The later their action the more difficult it becomes to distinguish the predisposing from the determining causes. Here we may recall the hypothetical case of alcoholism, mentioned at the beginning of this chapter; alcoholism may act in some cases as a predisposing cause and in others as a determining cause, and it is not always possible to establish with certainty its mode of action.

§ 2. Determining Causes.

As we have shown above, according to most alienists all the insane belong to the class of individuals presenting a neurotic predisposition; it does not, by any means, follow from this, however, that all those who are predisposed become insane. Save in the instances in which there is a congenital psychic infirmity, such as idiocy, moral insanity, or epilepsy, most of the psychoses are acquired and supervene in individuals previously sound in mind or at least free from evident and grave mental disorders. Thus we are forced to assume that some new factor must cause the cropping out of a previously latent morbid tendency.

The study of the *determining causes* is therefore of great practical interest. We can do nothing against a predisposition except in an indirect and general way,

by means of physical and moral hygienic measures, the effects of which may be felt only by the coming generations. The *determining causes* are, on the contrary, directly accessible; in many cases we can either remove them or combat them. An example will render this idea clearer: Three individuals are from their birth equally charged with a hereditary predisposition. One of them leads a quiet and regular life, free from overwork and excesses. In him the predisposition remains latent, and his life passes without the occurrence of mental disturbances. The second becomes addicted to alcoholism and in course of time develops the usual signs of the intoxication; but, conscious of his danger, he abandons his intemperate habits and recovers his health. Lastly, the third gives himself up to the same excesses as the second, but, instead of stopping in his fatal descent in time, he remains an inveterate drunkard and, becoming demented, ends his days in an insane asylum. These three individuals have had very different fates, because the first has escaped the determining cause, the second was prudent enough to combat it, while the third has entirely abandoned himself to its influence.

The determining causes may be subdivided into *physical* and *moral*.

Physical determining causes.—We are to congratulate ourselves upon the present activity among alienists and neurologists in the investigation of the etiological relations of toxæmias, auto-intoxications, and infections. We shall see in the course of this work that many new, interesting, and important data have already been obtained through these researches.

The *germs of infectious diseases* elaborate toxins the action of which does not differ essentially from that of chemical poisons, such as alcohol or cocaine. The infectious diseases and the intoxications therefore form in psychiatry two groups that are very closely related etiologically and even clinically.

We distinguish mental disorders which are coincident in time with the infection itself from those that follow it. Only the former present specific features and merit the name of *infectious psychoses*. They appear sometimes in the prodromal period, but more frequently they supervene at the height of the disease, and become alleviated or aggravated coincidently with the other symptoms of the infection.

The *psychoses which follow infectious diseases* depend upon the general exhaustion which accompanies convalescence. They appear chiefly as acute confusional insanity or as chronic psychoses terminating in dementia (dementia præcox). In the latter case the mental disease usually does not break out until several weeks or even several months have passed after the infectious disease. I have seen in Joffroy's clinic a case of catatonia which appeared three months after a very severe attack of scarlet fever. Possibly the primary affection brings about a general disorder of nutrition which does not become manifest until the lapse of a period of greater or lesser duration.

The confusional insanity and the chronic psychoses which follow infectious diseases do not present any special features and do not deserve to be classed as independent morbid entities. In their symptomatology and evolution they are identical with the same con-

ditions when caused by traumatisms, overwork, auto-intoxications, and other agents.

All the acute infectious diseases may give rise to mental disorders: the *eruptive fevers*, *septicæmia*, *erysipelas*, *typhoid fever*, *gonorrhœa*, etc.[1] The post-infectious psychoses are of very frequent occurrence after *influenza*. Well recognized since the epidemics of recent years, they present no specific features, as was pointed out by the authors who were the first to make a study of them (Pick, Schmitz).[2]

The mental disorders often seen in the course of *acute articular rheumatism* are always the consequence of meningeal complications which either accompany or alternate with the articular inflammations.[3]

The mental disturbances due to *malarial infection* may be classified in three groups. In the first group are those which are associated with the attack of malaria; these rightly belong to the febrile deliria. In the second are those which take the place of a febrile attack, constituting a form of malaria larvata. In the third are those which occur as complications of the cachexia of the pernicious forms.

These disturbances present no pathognomonic features, and only a knowledge of a history of the

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[1] Joffroy. *Fièvre typhoïde et folie.* Congrès de Médecine mentale, 1891.—Colombani. *Troubles psychiques dans les affections génito-urinaries de l'homme.* Thèse de Paris, 1900.

[2] Schmitz. *Ueber Geistesstörungen nach Influenza.* Allg. Zeitschr. f. Psychiatrie, 1891.

[3] Griesinger. *Pathologie und Therapie der Geisteskrankheiten.* —V. Mabille et Lallemand. *Les folies diathésiques*, 1891.

disease and the recurrence of the attacks furnish the possibility of making a diagnosis.[1]

The mental disorders of hydrophobia will be described separately.

Among the *chronic infections* two are deserving of special consideration, namely, syphilis and tuberculosis.

Syphilis, as we shall see later on, is a factor of primary importance in the etiology of general paresis. It may also cause mental disorders by the localized lesions which it gives rise to (arteritis, gummata, areas of meningeal inflammation).

The frequency of *tuberculosis*, especially that of the lungs, in insane asylums, has long been known. Esquirol has mentioned its frequency in melancholiacs. According to Hagen,[2] mortality from tuberculosis is five times as frequent among the insane as it is among the mentally sound; in France, according to Brouardel, only three times. More recent statistics seem to show that these alarming proportions are somewhat exaggerated. According to Heimann, pulmonary tuberculosis is not notably more frequent in the population of asylums than it is in the normal population. It cannot be denied, however, that certain psychoses, through the nutritive disorders which are associated with them, favor its development. But in mental alienation

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[1] Lemoine et Chaumier. *Des troubles psychiques dans l'impaludisme.* Ann. méd. psych., 1887.—Krafft-Ebing. *Zur Intermittenz Larvata.* Arbeiten aus dem Gesammtgebiet der Psych. und Neuropath., No. I, 1897.—Daniel Pasmanik. *Ueber Malaria-Psychosen.* Wiener medic. Wochenschrift, 1897, Nos. 12 and 13.

[2] Quoted by Heimann. *Die Todesursachen bei Geisteskrankheiten.* Allg. Zeitschr. f. Psychiatrie, Vol. LVII, No. 4.

tuberculosis is not merely an *effect;* it may also be a *cause.*

Chartier [1] has made an interesting study of the mental disorders connected with tuberculosis. He distinguishes four classes of cases:

(*a*) The pyschosis originates during the course of consumption;

(*b*) It alternates with the tuberculous exacerbations, and constitutes a sort of tuberculous equivalent;

(*c*) It appears after the apparent cure of the pulmonary affection;

(*d*) It develops in a subject tainted with latent tuberculosis, i.e., tuberculosis which does not present the usual symptoms of pulmonary invasion by the bacillus of Koch.

In England a special clinical form has been described under the name of tubercular insanity, which develops in three stages. The first stage is marked by change of character—"unsociability, irritability, and an entire want of buoyancy and proper enjoyment of life." [2] The second stage presents the acute symptoms: ideas of persecution, maniacal states. The third stage is a state of semi-stupor. Chartier, though admitting the existence of such a form, does not consider it as specific, and adheres to the opinion generally accepted in France "that most of the known forms of mental alienation may be observed coincidently with latent tuberculosis." [3]

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[1] Chartier. *De la phtisie et en particulier de la phtisie latente dans ses rapports avec les psychoses.* Thèse de Paris, 1899.

[2] Clouston. *Clinical Lectures on Mental Diseases,* p. 510.

[3] Chartier. *Loc. cit.,* p. 70.

Symptomatically tuberculosis manifests itself most frequently by states of depression.[1] This is comparable to the abnormal sadness so often noticed in tubercular patients at the beginning of their affection. Whatever form they may assume, the mental disorders probably always indicate the same pathogenesis, and result from the action of the tubercular toxine upon the nervous system, also from the impairment of the general nutrition.

Malignant tumors are sometimes accompanied by mental complications which usually assume the form of confusional insanity.[2]

All the *intoxications*, exogenous or endogenous, are capable of determining the occurrence of mental disturbances; in practice some of these toxic agencies are encountered with especial frequency.

Among the exogenous poisons the action of which is readily exerted upon the nervous system may be named, in the order of their clinical importance, *alcohol;* very far behind it *morphine;* and still less important *carbonic oxide, lead, mercury, cocaine,*[3] etc. Among the intoxications of endogenous origin, or *autointoxications*, may be mentioned *uræmia, myxœdema*, and *acromegaly.*[4]

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[1] Dufour et Rabaud. *Bulletin de la Société anatomique*, Mars, 1899.

[2] Klippel. *Les accidents nerveux du cancer.* Archives gén. de Médecine, 1892.

[3] *Pellagra*, which is probably a toxic disease, may be complicated by episodes of depression. Among the poisons which are apt to give rise to mental disturbances are to be mentioned further belladonna, salicylic acid and its derivatives, the thyroid substance. (Marais, Thèse, 1900.)

[4] Joffroy. *Sur un cas d'acromégalie avec démence.* Progrès

The importance attributed to the auto-intoxications is growing from day to day. We shall see that according to Kraepelin's ingenious conception general paresis is classed as a disease caused by auto-intoxication. Many cases of dementia præcox seem to indicate an analogous pathogenesis.

In a group closely related to the preceding are the *disorders of nutrition*, which may likewise be complicated by psychic disturbances. Gout occasions the occurrence of mental disorders which either precede or follow the attacks, or in some instances replace them, constituting veritable metastases.[1]

The association of psychic disturbances with *diabetes* has long since been noted by various authors. Before the time of Marchal de Calvi glycosuria was generally thought to be the consequence of nervous or mental affections; this author has shown that the relation is reversed, that the latter states are the effect and not the cause.[2]

Laudenheimer,[3] in a highly interesting and very

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médic., février, 1898.—Brunet. *Etat mental des acromégaliques.* Thèse de Paris, 1899.

[1] Régis et Chevalier-Lavaure. *Des auto-intoxications dans les maladies mentales.* Congrès de médecine mentale, 1894.—Séglas. *Paper on the same subject.* Ibid.—Mabille. *L'albuminurie chez les arthritiques et les auto-intoxications dans les maladies mentales.* Ibid.—Von Solder. *Des psychoses aiguës dans la coprostase.* Jahrb. f. Psych., 1898, Nos. 1 and 2.—*Delle auto-intossicazioni nella Patogenesi delle Neurosi et delle Psichosi.* Il Manicomio moderno, Vol. XIV, No. 3.

[2] Cotard. *Aliénation mentale et diabète.*—Bernard et Féré. *Des troubles mentaux chez les diabétiques.* Arch. de neurol., 1882, Vol. IV.

[3] Rudolph Laudenheimer. *Diabetes und Geistesstörung.* Berlin. klin. Wochenschr., 1898, Nos. 21 and 24.

thorough work, divided the cases in which diabetes and mental disorders coexist into four classes:

(1) The diabetes and the mental disorders coexist without any etiological classes:

(2) The diabetes is the consequence of the mental disease;

(3) The diabetes is the cause of the mental disease;

(4) The diabetes and the mental disorder are two effects of the same outside cause.

Clinically the mental disorders of diabetes frequently assume the form of depression; there is, however, no absolute rule with regard to this.

Aside from true diabetes, *simple glycosuria* is frequently encountered among the insane; it is usually intermittent, and follows the states of intense agitation.

Overwork, inanition, cachectic diseases are, by reason of the general exhaustion and the nutritive disorders which they bring about, among the important factors in the etiology of insanity. Their most usual clinical expression is acute confusional insanity.[1]

Chronic exhaustion manifests itself psychically in the neurasthenic states, the study of which belongs properly to the domain of neurology.

Most *organic lesions* are capable of affecting the psychic functions. Uræmic insanity shows the importance of renal lesions in the etiology of mental diseases. The general vascular affections (arteritis, atheroma), through their interference with cerebral nutrition, are the prin-

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[1] Coulon. *Du rôle des artérites dans la pathologie du système nerveux.* Congrès des médecins alienistes et neurologistes. Angers, 1898.

cipal factors in the senile, alcoholic, and apoplectic dementias.

Heart-disease [1] is frequent in the insane. The statistics of Strecker,[2] based upon 1000 autopsies performed in insane asylums, show that 61.7% of the men and 42.7%of the women present cardiac lesions. These are quite frequently the consequence of the psychoses, especially of those which are accompanied by chronic excitement (Krafft-Ebing). Sometimes also they precede the mental trouble, and play an important part in the causation of the attack.

Valvular insufficiencies and changes in the myocardium act either directly by giving rise to disorders of the cerebral circulation, or indirectly by bringing about renal and hepatic insufficiency.

Everybody is acquainted with the changes of disposition which sufferers from dental caries,[3] dyspepsia, or liver troubles [4] are subject to. Diseases of the stomach, intestine, and particularly those of the liver sometimes engender veritable psychoses. Such is also the case with affections of the generative organs, the importance of which, though of late much exaggerated,

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[1] Fischer. *Ueber psychosen by Herzkrankheiten.* Allg. Zeitschr. f. Psychiatrie, Vol. LIV, No. 6.—Pelgmann. *Toxämische Delirien bei Herzkranken.* Deutsche medic. Wochenschr., 1899, No. 19.

[2] Strecker. Virchow's Archive, Vol. 126.

[3] Léopold-Lévi. *Hépatotoxhémie nerveuse.* Arch. gén. de méd., mai, juin, juillet, 1897.—Cullerre. *Hepatisme et psychoses.* Arch. de neurol., nov. 1898.—Klippel. *Insuffisance hépatique dans les maladies mentales.* Arch. gén. de méd., 1892.

[4] Poinsot. *Création et fonctionnement du service dentaire à l'asile Sainte-Anne (asile clinique).* Travaux du troisième Congrès dentaire international, huitième section, Paris, 1900.

especially in the case of women, is none the less real. Similarly, functional disorders of these organs may be accompanied by disturbances in the psychical sphere.

The slight mental troubles that often occur in the *menstrual periods* in some cases assume the proportions of veritable psychoses. The onset of menstruation in young women is also, at times, the origin of a more or less serious psychopathic process. Various mental troubles may make their appearance at this age, such as the periodic psychoses, dementia præcox, hysterical attacks, etc.[1]

The mental disorders accompanying visceral lesions were formerly called reflex insanities. It was supposed that an impression originating from the diseased organ and transmitted to the brain disturbed the psychic equilibrium and gave rise to insanity. Esquirol attached considerable importance to displacements of the transverse colon. In reality the pathogenesis of these cases is entirely different, and consists most likely in an auto-intoxication or an infection, the starting-point of which is in the diseased organ.

The *puerperal state*[2] is a common cause of mental alienation. The puerperal psychoses do not form a homogeneous group, either from an etiological or from a clinical standpoint. The cause of the disorder may be either infection, or autointoxication, or profound anæmia following a hemorrhage. These diverse factors may act

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[1] Hegar. *Zur Frage der sogenannten Menstrualpsychosen.* Allg. Zeitschr. f. Psychiatrie, Vol. LVIII, Nos. 2 and 3.

[2] Castin. *Des psychoses puerpérales dans leurs rapports avec la dégénérescence mentale.* Thèse, Paris, 1899.

simultaneously. The clinical forms are most frequently primary mental confusion and dementia præcox. Sometimes the puerperal state merely brings to light a latent psychosis (epileptic, hysterical, or periodic insanity). In other words, there is no single puerperal insanity, but "insanities, or rather psychoses of the puerperum." [1]

The puerperal psychoses proper are to be distinguished from the psychoses of pregnancy and from those of lactation. The first are the most frequent. The following proportions are given by Aschaffenburg: [2] pregnancy 22.7%; puerperal state (childbirth) 57.6%; lactation 17.7%.

Traumatisms are often mentioned in the antecedents of insane patients. It is not always easy to determine the degree of their influence, for generally they precede very remotely the onset of the psychosis. Stolper [3] distinguishes three groups of traumatic psychoses:

(1) Trauma-psychoses: the traumatism is the sole cause;

(2) Predisposition-trauma-psychoses: the traumatism merely brings out a pre-existing predisposition;

(3) Trauma-predisposition-psychoses: the traumatism creates a predisposition, which some subsequent cause develops into a psychosis.

In reality the predisposition is present in all forms of psychoses, traumatic or otherwise, so that the first two groups of Stolper fuse into one.

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[1] Ballet. *Leçons cliniques sur les névroses et les psychoses*

[2] Aschaffenburg. *Ueber die klinischen Formen der Wochenbettpsychosen.* Allg. Zeitschr. f. Psychiatrie, Vol. LVIII, Nos. 2 and 3.

[3] Quoted by von Muralt. *Katatonische Krankheitsbilder nach Kopfverletzungen.* Allg. Zeitschr. f. Psychiatrie, Vol. LVII, No. 4.

The traumatic psychoses [1] may present themselves under an infinite variety of clinical forms: catatonia (von Muralt), general paresis (Vallon), periodic insanity, neurasthenia, etc.

Like the puerperal psychoses, the *post-operative* psychoses have a complex pathogenesis.[2] They may result from the shock of the operation itself, from the anæmia following profuse hemorrhage, from an infection, or from a medicinal intoxication. One must also bear in mind the anxiety preceding the operation, which may attain considerable intensity, especially in degenerates (Joffroy).

Clinically the post-operative psychoses assume various forms, and do not constitute a special morbid entity.

All the *organic nervous diseases*—tabes, multiple sclerosis, focal cerebral lesions, etc.—and all the *neuroses*—epilepsy, hysteria, exophthalmic goitre,[3] chorea,[4] paralysis agitans, etc.,—may be accompanied by mental disorders. Focal lesions, epilepsy, and hysteria, the psychic manifestations of which present special features, will form the respective subjects of special chapters.

Congenital or acquired *neurasthenia* constitutes a fa-

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[1] Kaplan. *Kopftrauma und Psychose.* Transactions of the Psychiatrical Society of Berlin. Published in *Centralblatt f. Nervenheilkunde und Psychiatrie,* May 24, 1899.

[2] Truelle. *Étude critique sur les psychoses dites post-opératoires.* Thèse, Paris, 1898.—Picqué. *Du délire psychique post-opératoire.* Ann médic. psychol. July and August, 1898.—Joffroy. *Folie post-opératoire.* Presse médicale, March 1898.

[3] Joffroy. *Des rapports de la folie et du goitre exophtalmique.* Ann. méd. psych., 1890.

[4] Joffroy. *De la folie choréique.* Sem. médic., 1893.—Ladame. *Troubles psychiques dans la chorée dégénérative.* Arch. de Neur., 1900.

vorable soil for the appearance of certain transient or permanent psychical derangements: obsessions, essential anxiety, etc. Neurasthenic disorders are always associated with psychasthenic disorders, which may almost approach in intensity the depression of melancholia.

Finally the *neuralgias* may, according to Krafft-Ebing,[1] engender true transient psychoses.

Moral causes.—The laity is apt to exaggerate the importance of the moral factors, often mistaking the first symptoms of the disease for its cause. It is often said of an individual that jealousy or anger has driven him insane, while in reality the jealousy or the anger is the first sign of derangement in his case. One may apply to these passions what Féré justly said concerning love, "to become insane from love, one must have the love of an insane."

The violent emotions do play a part, however, in the production of mental disorders, at least as adjuvant causes. I had under my care a precocious dement whose affection began several weeks after a fire in which she nearly perished.

The influence of prolonged or repeated emotions is still more evident. Great national commotions and wars cause an increase in the number of the insane. It is true that the part played by the emotions is, in these cases, difficult to establish. Indeed a great many other causes co-operate with them. As the most important of these may be mentioned alcoholic excesses, stress, and privations.

[1] Krafft-Ebing. *Arbeiten*, 1897, I, p. 81, and Allgem. Zeitschr. f. Psychiatrie, Vol. LVIII, Nos. 2 and 3.

Prolonged anxiety, constant perplexity, also play a certain part in the etiology of the psychoses. These phenomena, seen chiefly in weak-minded individuals, are frequently in themselves the symptoms of an already established psychopathic state, and here again the danger exists of mistaking the effect for the cause.

Such is also the case with *exaggerated religious practices* and with *extreme sensibility*, which also indicate a defective mental state.

Isolation is said to produce mental disorders in prisoners. It is not impossible that the abolition of all relations with their like and the absence of any occupation capable of arousing the interest exercise an unfavorable influence upon the mental condition of prisoners. But the action of these causes should not be overestimated, for it must not be lost sight of that most prisoners are congenitally abnormal, and that in some insanity has existed, unrecognized, before their imprisonment.[1]

Mental disorders may be communicated from one individual to another. This constitutes *mental contagion*, and is to be attributed to suggestion (induced insanity of the Germans).

Often the delusions are transmitted to only one individual; we then have the "*délire à deux.*" This generally occurs in the following manner: one individual

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[1] Kirn. Allg. Zeitschr. f. Psychiat., XVIII, 13.—Rüdin. *Klinische Formen der Gefängniss-Psychosen.* Allg. Zeitschr. f. Psychiat., LVIII, Nos. 2 and 3.—Taty. *Aliénés méconnus et condamnés.* Congrès de médecins aliénistes et neurologistes, 10th Session, Marseille, 1899.—Pactet et Colin. *Les aliénés devant la justice.* Encyclopédie des aide-mémoire.

becomes insane and communicates his ideas to some member of his family or to one of his friends. The latter, who is always congenitally feeble-minded, accepts them without question, and sometimes even finds proof of them in his own hallucinations. His delusions are essentially the functions of the first individual; they undergo the same fluctuations, and disappear with the removal of the influence of the other patient. The mechanism is the same when the contagion spreads itself over a more or less numerous group of individuals, as, for instance, in psychoses of a religious type. In all the reported instances such epidemics become rapidly extinguished upon the removal of the influence of the leader.[1]

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[1] Regis. *De la folie à deux.* Thèse, Paris, 1880.—Marandon de Montyel. *La folie à deux.* Gaz. des Hôpit., 1894.—Dervey. *Remarks upon psychical contagion and infection.* American Journ. of Insanity, Oct. 1899.—Ninas-Rodriguez. *Épidémie de folie religieuse au Brésil.* Ann. méd. psych., May–June, 1898.—Falret. *Études cliniques sur les maladies mentales et nerveuses*, Paris, 1890, p. 545.—Michel Delines. *Les emmurés de Tornovo.* Analyse d'un travail de Sikorski. Revue Scient., Sept. 3, 1898.

CHAPTER II.

SYMPTOMATOLOGY.—DISORDERS OF PERCEPTION.

INSUFFICIENCY OF PERCEPTION.—ILLUSIONS.—HALLUCINATIONS.

"The senses," says Jean Muller, "inform us of the various conditions of our body by the special sensations transmitted through the sensory nerves. They also enable us to recognize the qualities and the changes of the bodies which surround us, inasmuch as these determine the particular state of the nerves."[1] The senses, in other words, are the means through which we obtain the knowledge of our own bodies and of the external world.

For their proper functioning are necessary: (1) the reception of an internal or an external impression by a peripheral organ; (2) the transmission of this impression to the brain; (3) its elaboration by the cortical cells, which transform it into a phenomenon of the consciousness: first sensation and then perception. Only the latter operation is of interest to the alienist.

We shall study in succession:

I. Insufficiency of perception;

II. Illusions (inaccurate perceptions);

III. Hallucinations (imaginary perceptions). Halluci-

[1] Jean Muller. *Manuel de Physiologie.*

nations and illusions are often classed together under the name of *psychosensory disorders*.

§ 1. Insufficiency of Perception.

Insufficiency of perception in its slightest degree may be met with in states of depression, at the onset of confusional states, etc. All external impressions are vague, uncertain, and strange. The patients complain that everything has changed in them and around them: objects and persons have no more their usual aspect; the sound of their own voice startles them.

In a more marked degree of insufficiency external impressions no longer convey to the mind of the subject any clear or precise idea; questions are either not understood at all, or understood only when they are very simple, brief, energetically put, and repeated several times. External stimulation, even the strongest, is but vaguely perceived and often causes no reaction proportionate to its intensity or appropriate to its nature.

Finally, complete paralysis of one or several forms of psychosensory activity is observed either in connection with profound disorders of consciousness, as in confusional insanity of the stuporous form, or by itself, as in hysterical amaurosis or deafness.

Insufficiency of perception constitutes an important element of clouding of the consciousness, which will be considered later on.

Its pathogenesis is closely connected with disorders of ideation. The normal act of perception really consists of two elements: (1) a sensory impression; (2) a

series of associations of ideas which enable the mind to recognize the impression and which almost always complete it and renders it more definite. If the second operation is not normally effected, the sensations remain vague and undecided, and there is insufficiency of perception.

§ 2. Illusions (Inaccurate Perceptions).

An *illusion* may be defined as a perception which alters the qualities of the object perceived and presents it to the consciousness in a form other than its real one. An individual who hears insulting words in the singing of birds or in the noise of carriage-wheels experiences an illusion.

Illusions are of frequent occurrence in normal individuals. There is no one to whom the folds of a curtain seen in semi-darkness did not appear to assume more or less fantastic shapes. But the mind, aided by the testimony of the other senses, recognizes the abnormal character of the image; the illusion is recognized as such. By the insane it is on the contrary taken as an exact perception and exercises a more or less marked influence upon all the intellectual functions.

Illusions affect all the senses and present, in the case of each, features analogous to those of hallucinations; I shall therefore not describe them here. I shall say but a few words concerning illusions of sight which present certain peculiarities.

Illusions of sight may occur in most of the psychoses, but are chiefly found in the toxic psychoses and in the infectious deliria. When these illusions are pertaining

to persons they are known as "false recognitions." Many insane individuals see among their fellow patients or among the staff of employees of the institution their relatives or friends. This form of illusions sometimes attains such completeness that the subject may, while at the hospital, believe himself to be at his home.

Illusions are very apt to occur in the midst of vague impressions: those of hearing in the presence of confusing noises, and those of sight in semi-darkness.

Like incomplete perceptions, inaccurate perceptions or illusions are the consequence of a disorder of ideation; abnormal associations replace the normal ones, which are absent, and complete the image, altering it at the same time.

§ 3. Hallucinations (Imaginary Perceptions).

"A person who has an inmost conviction of a sensation actually perceived, when no external object capable of exciting such sensation is within reach of the senses, is in a state of hallucination" (Esquirol).

"By hallucinations are understood subjective sensory images which are projected outwardly and which in that way acquire objectivity and reality" (Griesinger).

"A hallucination is a perception without an object" (Ball).

These three definitions are essentially identical. That of Ball appears to me to be the best on account of its conciseness.

Hallucinations may affect any of the senses. There are therefore as many varieties of hallucinations as there are senses.

Some properties are common to all varieties of hallucinations, others are peculiar to each variety.

A. PROPERTIES COMMON TO ALL VARIETIES OF HALLUCINATIONS.

Hallucinations exercise an influence upon the psychic personality of the patient, which varies with the subject, the nature of the disease, and the different stages of the same disease.

In a general way it may be stated that the more acute the character of the mental disorder (acute psychoses, periods of exacerbation in chronic psychoses) and the less enfeebled the intellectual activity, the more marked is the influence of the hallucinations. In accordance with this rule, the correctness of which is clinically demonstrated, hallucinations abate in their influence as the acute stage of the psychosis subsides—either when the patient enters upon convalence, or when he lapses into dementia; under such conditions they may persist for a greater or lesser length of time without exercising any influence upon the patient's emotions or actions.

The influence of hallucinations upon the psychic functions.—*Attention.*—Hallucinations force themselves upon the attention of the patient. In the case of hallucinations of hearing, for instance, he is compelled to listen to them, sometimes in spite of himself, no matter what their degree of clearness is,—whether they consist of distinctly spoken words or phrases, or of a scarcely perceptible murmur.

The patient is sometimes conscious of the tyrannical dominating power to which he is subjected. "I am

forced to listen to them," said one of these unfortunates; "when they (his persecutors) get at me I can do no work, cannot follow any conversation, *I am wholly in their power.*" Hallucinations thus resemble the imperative ideas and the autochtonous ideas which we shall study later on.

Judgment.—Hallucinations may coexist with sound judgment and be recognized by the patient as a pathological phenomenon. They are then called *conscious hallucinations.* Such instances are not very rare and consist chiefly of hallucinations of sight. A celebrated case is that of Nicolai, the bookseller. "The visions began in 1791, after an omission of a bloodletting and an application of leeches which he underwent habitually for hemorrhoids. All of a sudden, following a strong emotion, he saw before him the form of a dead person, and on the same day diverse other figures passed before his eyes. This repeated itself on numerous occasions.

"The visions were involuntary and he was unable to form an image of any person at will. Most of the time, also, the phantoms were those of persons unknown to him. They appeared during the day as well as during the night, assuming the colors of the natural objects, though they were somewhat paler. After a few days they began also to speak. One month after the onset of this affection, leeches were applied; on the same day the figures became more hazy and less mobile. They disappeared finally after Nicolai had for some time seen only certain portions of some of them." [1]

[1] Jean Muller. *Loc cit.*

Some individuals possess the power of producing their hallucinations at will. Goethe had that power. "As I shut my eyes," he said, "and lower my head I figure to myself a flower in the center of my visual organ; this flower does not retain for an instant its original form; it forthwith rearranges itself and from its interior appear other flowers with multicolored or sometimes green petals; they are not natural flowers, but fantastic, though regular, figures like the rosettes of the sculptors. It is impossible for me to fix the creation, *but it lasts as long as I desire without increasing or diminishing.*" [1]

In the great majority of cases the judgment, itself disordered, is unable to correct the psychosensory error: *the hallucination is taken for a true perception.* Though sometimes in the beginning of the disease the subject experiences some doubts, this transitory incertitude is soon replaced by a blind belief in the imaginary perception. "We observe," says Wernicke, "that the reality of the hallucinations is maintained against the testimony of all the other senses, and that the patient resorts to the most fantastic explanations, rather than admit any doubt as to the accuracy of his perception." [2] An individual, alone in the open field, hears a voice calling him a thief. He will invent the most absurd hypotheses rather than believe himself a victim of a pathological disorder.

Certain patients, chiefly the weak-minded and the demented, accept their hallucinations without inquiring

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[1] Jean Muller. *Loc cit.*

[2] Wernicke. *Grundriss der Psychiatrie*, p. 126.

as to their origin or mechanism; others on the contrary elaborate explanations which vary with the nature of the malady, the degree of the patient's education and intelligence, and the current ideas of the times. In the middle ages the psychosensory disorders of the insane were often attributed to diabolic intervention, and this not only by the patient himself but also by his friends. The patients of our own times mostly resort for explanations to the great modern inventions (electric currents, telephone, X-rays, wireless telegraphy, etc.). Some fancy to themselves apparatus or imaginary forces. One patient attributed his disturbances of general sensibility to a "magneto-electro-psychologic" current. Another received the visions from a "theologico-celestial projector."

Affectivity.—Hallucinations are sometimes agreeable, at other times painful, and occasionally, chiefly in dements, indifferent.

In the first case their outward manifestations are an appearance of satisfaction, an expression of happiness, and sometimes ecstatic attitudes.

In the second case, which is the most frequent, the patients become sad, gloomy, or, on the contrary, agitated and violent, a prey to anxiety or anger.

The two kinds of hallucinations, agreeable and painful, are occasionally encountered in the same subject. Sometimes they follow each other without any regular order and are coupled with a variable disposition and incoherent delusions, as in maniacs and in general paretics; at other times they follow each other somewhat systematically—the painful hallucinations are combated by the agreeable ones. The patients

often speak of their persecutors, who insult, threaten, and abuse them, and of their defenders who console them, reassure them, and repair the damage done by the former. A persecuted patient heard a voice call her "a slut"; immediately another voice responded, "He lies; she is a brave woman." Some patients tell of their limbs being smashed and their viscera extracted every night, but that nevertheless they are sound and safe when they arise, thanks to the good offices of their defenders, who properly replace everything. These two sets of hallucinations constitute what the patients sometimes call the *attack* and the *defense*.

The indifferent hallucinations are of but little interest. They are met with at the terminal periods of the processes of deterioration, and also at the beginning of convalescence in the acute psychoses. In the latter case they rapidly become conscious hallucinations and finally disappear.

Reactions.—The influence of hallucinations upon the will depends upon the state of the judgment and of the affectivity. If the judgment is sound, if the hallucinations are looked upon as pathological phenomena, they give rise to no reaction; and the same is the case when they make no impression upon the emotions.

But when they are accepted by the patient as real perceptions and influence strongly the emotional state, hallucinations, on the contrary, govern the will to a very considerable extent and prompt the patient to defend himself against the ill-treatment of which he believes himself to be the object or to obey the commands which are given him (imperative hallucinations).

Hence the frequency of violent and criminal acts committed by the insane, and the well-known axiom in psychiatry according to which all subjects of hallucinations are dangerous patients.

The reactions caused by hallucinations are often abrupt, unreasonable, and of an impulsive character, especially in the feeble-minded and in patients with profound clouding of consciousness (delirium tremens, epileptic delirium). But they may also show all the evidences of careful premeditation. Certain persecuted patients, exasperated by their painful hallucinations, prepare their vengeance with infinite precautions.

The influence of hallucinations upon the will is often so powerful that nothing can combat it, neither the sense of duty, nor the love of family, nor even the instinct of self-preservation. A patient passing near a river heard a voice tell him: "Throw yourself into the water." He obeyed without hesitation, and to justify himself declared simply: "They told me to do it; I was forced to obey."

Combined hallucinations.—Sometimes hallucinations affect but one sense. Such are the hallucinations of hearing at the beginning of systematized deliria. Generally, however, the pathological disorder affects several senses, the different hallucinations either following one another, or existing together without any correlation, or combining themselves and producing complex scenes either of a fantastic aspect or analogous to real life. In the latter case they bear the name of *combined hallucinations*. The patient sees the imaginary persons, hears them speak, feels the blows that they inflict upon him,

makes efforts to reject the poisonous substances which they force into his mouth, etc. This state, closely related to dreaming, is always accompanied with marked clouding of the intellect.

Diagnosis of hallucinations.—Two possibilities may present themselves: (1) The patient directly informs the physician about his condition; (2) He gives no information whatever, either because of his reticence or because of his intellectual obtuseness.

In the first case the diagnosis of hallucinations is generally easy. It is necessary, however, to ascertain that the pathological phenomenon is really a hallucination, and not an illusion; in other words, that it is a perception without an object, and not an inaccurate perception. Only a detailed examination of the circumstances under which the phenomenon shows itself will prevent the error; it is very difficult indeed, when a subject hears himself being called a thief in the midst of thousands of street noises, to decide whether he experiences a hallucination or an illusion. The certainty is, on the other hand, much greater when the morbid perception occurs in absolute silence, as during the night, for instance.

In the second case the diagnosis must be made without the assistance of the patient, or even in spite of his denials. It must be based only upon the patient's attitudes, movements, and at times upon the means of defense which he resorts to and which vary according to the sense affected. The ear turned for some time in a certain direction, the eyes fixed or following a definite line without there being any real object to attract them, the ears stuffed with foreign bodies, evidences of strong emotions, an expression of fear, etc., lead to the pre-

sumption of the existence of hallucinations. I say *presumption* because the external signs do not enable us to establish with certainty the patient's state of consciousness. Over-refined psychological analyses are to be mistrusted if one is to avoid unwarranted conclusions which would render the diagnosis and prognosis faulty.

Relations between hallucinations and other mental disorders.—What position do hallucinations occupy in the genesis of the psychoses? Are they primary or secondary?

It is not impossible that at times, notably in the intoxications and in cases of localized lesion, hallucinations appear first and are the cause of the other mental disturbances which follow. In practice, however, such cases occur but rarely. A careful and complete history almost always shows that the hallucinations are preceded by other symptoms: depression, intellectual obtuseness, clouding of consciousness, delusions, etc.

Indeed it is difficult to conceive of one or more hallucinations appearing in an individual free from all other mental trouble, without their being at once corrected by the judgment aided by the other senses. On the other hand it is quite intelligible that imaginary perceptions may exercise an influence upon the attention, the emotions, the judgment, and the will, if they are but the reflection or the realization of the patient's preoccupations and morbid ideas, that is to say, if they are secondary. The melancholiac who believes himself guilty of a crime sees and hears the police officers who are coming to arrest him. The persecuted patient who believes himself to be exposed to the malevolence of his imaginary enemies hears their voices insulting him.

The general paretic with pleasing and expansive delusions experiences pleasant sensations. Hallucinations are, then, the *expression, and not the cause,* of delusions; and that is why they harmonize so perfectly with the mental state of the subject.

Some alienists [1] have described a *hallucinatory delirium* as a distinct morbid entity the essential features of which are the multiplicity and the primary character of the hallucinations. If the idea which I attempted to expose above is correct, hallucinations, never or almost never being primary, cannot form the essentialand exclusive feature of an affection, and hallucinatory delirium cannot retain its autonomy. Therefore most authors classify such cases with confusional insanity, general paresis, dementia præcox, and the toxic psychoses.

General etiology of hallucinations.—On this subject we possess but very incomplete information.

Hallucinations appear readily in states of impaired consciousness, as epileptic delirium and the toxic psychoses. It is to the enfeeblement of consciousness that the hallucinations induced by *hypnotics* are to be attributed; these hallucinations precede the sleep in certain nervous subjects and are most frequently of the conscious type.

Hallucinations are very apt to appear in the absence of real sensations,—those of hearing during silence and those of vision in darkness. This explains why isolation in prison-cells, practiced in penitentiaries, predisposes to hallucinatory psychoses (Kirn).

In some instances hallucinations are produced in a

[1] Farnarier. *La psychose hallucinatoire*, Paris, 1899.

somewhat automatic manner, at the occasion of some definite impression. One patient felt a taste of sulphur in his mouth whenever the name of one of his persecutors was uttered in his presence. Such hallucinations have been described by Kahlbaum under the name of *reflex hallucinations.*

Hallucinations may depend to a certain extent upon a peripheral excitation either of the sensory organ itself or of the conducting nerve. They are in such cases frequently *unilateral.* "Max Busch has brought about a notable improvement in the mental condition of a patient who had auditory hallucinations which were most marked on the left side, by treating his otitis media with perforation of the drum membrane, which he had contracted during childhood." [1] Visual hallucinations have been observed to appear as the result of ocular lesions, such as cataract, and to disappear under appropriate treatment. These peripheral lesions are, so to speak, but a pretext for the hallucinations, and are not to be considered as their true cause. The cause is to be looked for in the special state of morbid irritability of the centers of perception which causes them to react by hallucinatory phenomena to abnormal peripheral excitation.[2]

Peripheral hallucinations are very analogous to Liepmann's phenomenon: if in a convalescing alcoholic slight pressure is made upon the eyeballs, hallucina-

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[1] Quoted by Legay. *Essai sur les rapports de l'organe auditif avec les hallucinations de l'ouïe.* Thèse de Paris, 1898, p. 25.

[2] Joffroy. *Les hallucinations unilatérales.* Arch. de neurol., 1896, No. 2.—Mariani. *Un cas d'hallucination unilatérale.* Riforma medica, 1899, Nos. 30 and 31.

tions are sometimes induced, even when the subject does not any more experience them spontaneously. The peripheral excitation transmits to the brain nothing but a nervous discharge the clinical expression of which is the hallucination. The fact that a great many patients present very grave and old standing lesions of the sensory organs without having any hallucinations is also evidence of the fact that these affections are of but secondary importance in the causation of psychosensory disorders.

Finally, hallucinations may be induced by *suggestion*. Sometimes it suffices merely to fix the attention of the patient upon a certain point for him to discover imaginary objects, persons, or forms. Such is frequently the case with the intoxicated, notably alcoholics and cocainomaniacs, also with certain dements. In an observation kindly communicated to me by Thivet, a patient read whole words upon a blank surface that was presented to him.

B. SPECIAL FEATURES OF EACH VARIETY OF HALLUCINATIONS.

Hallucinations of hearing.—In pathological states, as in the normal state, auditory sensations occupy a position of primary importance among the psychic functions; thus, of all the hallucinations those of hearing are clinically the most frequent and the most important.

Séglas [1] classifies them in three categories: "The

[1] *Leçons cliniques sur les maladies mentales et nerveuses*, p. 5.—*Pathogénie et physiologie pathologique de l'hallucination de l'ouïe.* Congrès des médecins aliénistes et neurologistes, 1897.

elementary auditory hallucinations, consisting of simple sounds; the *common* auditory hallucinations, consisting of sounds referable to definite objects; and finally *verbal* auditory hallucinations, consisting of words representing ideas."

Wernicke [1] combines the first two categories under the name of *akoasms*, and designates the third, the only one that seems to him to merit separate consideration, by the name of *phonemes*.

Akoasms comprise imaginary noises of a variable nature, such as buzzing, whistling, screaming, groanings, ringing of bells, explosions of firearms, etc. Their clinical significance is the same as that of hallucinations in general, and their influence upon the mind depends upon their interpretation by the patient.

Phonemes (the verbal auditory hallucinations of Séglas) have on the contrary a special significance, inasmuch as they consist of "words representing ideas." Their influence is much more direct and much more powerful than that of akoasms.

Their content varies from isolated words to the most complicated discourses. Sometimes the words or phrases are pronounced indistinctly, resembling a faint murmur; at other times they are perceived with remarkable clearness. "It seems to me," patients often say, "that somebody is speaking very near me . . . I hear my enemies as well as I hear you." This distinctness largely accounts for their being accepted as real voices, and explains partly the remarkable influence of auditory hallucinations.

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[1] *Loc. cit.*, p. 189.

The "invisible ones," as the patients often call the imaginary voices, are sometimes localized with extraordinary precision. "The insane manifest a power of localization not encountered in other than pathological states." [1] The distance at which they believe they hear the voices is very variable; the voices may be very close by or, on the contrary, hundreds of miles away. Many patients hold the persons that are around them responsible for the hallucinations; thus are explained some of the sudden assaults often committed by such patients. Others ascribe their hallucinations to inanimate objects. One patient accused her needle, another her stockings. Still others lay the blame upon invisible instruments which are used by their enemies (phonographs, telephones, megaphones, etc.).

Like all other hallucinations, those of hearing vary with the nature of the mental trouble: sad in the painful states, agreeable and cheerful in the expansive states. Usually the names by which the patients designate the "invisible ones" are not very choice ones, consisting chiefly of profane or even filthy expressions. Unpleasant hallucinations may alternate with the agreeable ones in the manner of *attack* and *defense*, as has already been stated. Sometimes each of the two varieties of hallucinations is perceived by only one ear.

The voices may repeat the thoughts of the patient, even before he has a chance to express them. "They know before I do what reply I wish to make," said

[1] Wernicke. *Loc. cit.*, p. 205.

one such patient. Another said: "When I read they read at the same time and repeat every word." Many complain that their thoughts are stolen from them.[1]

Quite often the voices create neologisms the meaning of which may remain absolutely enigmatical to the patient himself, or to which he may attribute a significance which harmonizes with his psychical state.

The timbre of the voices is very variable. In some cases the patient always perceives one and the same voice; but more frequently many voices are heard: voices of men, women, and children, which are sometimes unknown to the patient, at other times familiar and enabling him to establish the identity of his persecutors.

Although they are encountered in a great many mental affections, acute and chronic, hallucinations of hearing, if they constitute a prominent feature by reason of their multiplicity, distinctness, or intensity, usually point to a grave prognosis. Their occurrence in an acute psychosis often forebodes a particularly long duration of the disease.

Hallucinations of sight.—Hallucinations of sight chiefly occur in toxic and febrile deliria and in certain neuroses (hysteria, epilepsy, chorea).

They vary greatly in distinctness. At times they are so clear that the patient is able to make a sketch of them; often they are, on the contrary, vague and uncertain.

Like the *voices*, the *visions* are apt to be taken for

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[1] Bechterew. *Ueber das Hören der eigenen Gedanken.* Arch. f. Psychiatrie, Vol. XXX.

reality by the subject; he seeks to remove them, to shun them, or on the contrary to seize them. They are in such cases coupled with a more or less marked clouding of the intellect.

Many patients, on the contrary, consider their hallucinations as *artificial phenomena*. The more conscious and the clearer in mind the patient is, the more apt he is to recognize the difference between the real world and his visions, because, with the exception of the cases in which the consciousness is profoundly disordered, visual hallucinations "seldom bear the appearance of reality." [1] They lack the proper qualities of normal visual sensations: perspective, clearness of contour, variety of tints, etc. Often the morbid image appears in a single plane, hazy in outline, and grayish in color. It is therefore not surprising that, not possessing the attributes of true perceptions, visual hallucinations are often not taken for reality, and do not exercise upon the mind of the patient the same degree of influence as do the phonemes.

Some patients consider their hallucinations as shadows or images *which they are made to see artificially* by means of projecting apparatus, electric currents, etc. Others attribute them to the pernicious action of poisons which their enemies make them absorb.

Visual hallucinations may take the form, though rarely, of verbal hallucinations of vision. The patients see words and phrases written on tables, walls, etc. A subject of choreic insanity whom I have observed in Joffroy's clinic saw her own name written on her

[1] Wernicke. *Loc. cit.*, p. 194.

apron. Everybody is familiar with the famous words *Mene, mene, tekel, upharsin,* which the guests saw appear upon the wall at Belshazzar's feast.

Hallucinations of taste and smell.—The senses of taste and smell are as closely associated in pathological states as they are in the normal state. Therefore hallucinations of these senses are usually considered together.

Their clinical significance varies, depending upon whether they coexist with psychic and somatic disorders of an acute nature, or they appear in the course of a chronic psychosis.

In the first case they often result from the dryness and the inflammation of the nasal and buccal mucous membranes or glands. They disappear with the disturbances of these glands, and they may be modified very favorably by appropriate treatment. Their importance with regard to the prognosis in such cases is very slight.

It is altogether different in the second case, when they supervene independently of the above causes in the course of chronic affections. They almost always indicate a profound alteration of the personality and the progress of the mental disorder towards dementia.

Hallucinations of taste and smell are mostly unpleasant. The patients complain of nauseating odors; putrid emanations are *blown* towards them; they are made to eat fecal matter; poisons are poured into their mouth, etc. They make use of certain means of defense, such as spitting, stuffing the nostrils with cotton or paper, and, what constitutes a very grave symptom, *refusal of food.*

Hallucinations of touch, of the thermal sense, and of the sense of pain.—These are often placed in a single group under the name of *hallucinations of general sensibility.*

Hallucinations of *touch* are frequent in certain toxic psychoses (delirium tremens, cocaine delirium), and in chronic systematized deliria. The patients feel the breath of somebody or the contact with something; they feel as though spiders were crawling upon their bodies, or they may have a sensation of being bound in an entangled mass of cords.

Closely related to the above are the hallucinations of the *genital sense,* which are encountered in neuroses, chiefly hysteria, in mania, and in a great many other acute and chronic psychoses. They consist of either painful or voluptuous imaginary sensations. When they co-exist with perfect mental lucidity they generally indicate a very grave prognosis.

Hallucinations of the *thermal sense* and of the *sense of pain* are a feature of chronic systematized deliria. The patients complain of being burned alive, that their body is being pierced with a red-hot iron, that they are being thrown off from their chair, that they are made to experience shocks like those of electric discharges, etc.

Motor hallucinations.—A motor hallucination may be defined as an imaginary perception of movement. It constitutes a disorder of that kind of sensibility which has been designated by the term muscular sense.

Analogous phenomena are encountered in normal individuals: the sensation of heaviness or of lightness of the limbs, which we experience during sleep, are justly attributed by Beaunis [1] to disturbances of the mus-

[1] *Les sensations internes*, 1889, Paris, F. Alcan.

cular sense; the *illusions referred to an amputated limb* are often accompanied by motor hallucinations.

Motor hallucinations are frequent among the insane. Some feel themselves being raised from their bed, being shaken continually against their will, etc. Others, like the mediæval sorcerers, imagine themselves flying in the air.

By a well-known psychological process the sensation tends to transform itself into an act, the motor image into a movement. *The motor hallucination becomes an impulse.* The patient feels with astonishment that his limbs, his tongue, or his mouth become the seat of movements in which his will takes no part. A patient of Krishaber's, for instance, felt his legs "move as though endowed with a power other than that of his own will." Many of the persecuted or mystic patients affirm that they have been transformed into automatons, and that God or their enemies, as the case may be, can make them go and act as they wish.

There is a certain form of motor hallucinations, which deserves particular attention by reason of its frequency, its clinical importance, and its high psychological interest; these are the *verbal* motor hallucinations which have been admirably described by Séglas.[1] As their name indicates, they affect the function of speech. The patient is conscious of involuntary movements of his tongue and lips, identical with those which produce articulation of words. The sensation may exist alone or it may acquire such intensity that

[1] *Leçons cliniques.* Also *Les troubles du langage chez les aliénés.* (Bibliothèque Charcot-Debove.)

it is transformed into actual motion, and the patient begins to speak in spite of himself. Often the pathological movements are scarcely apparent, being limited to an inaudible whisper. Sometimes the impulse is so strong that it results in loud talking or screaming. The remarks made by the patient in such a case may be entirely discordant with his true sentiments. In this way such patients may unintentionally insult their relatives, making use of obscene language, blasphemies, etc. At other times the very thoughts of the patient are spoken out in spite of himself. Pierracini has termed this phenomenon "the escape of thought." (Quoted by Séglas).

Verbal motor hallucinations exercise upon the function of speech, even in those cases in which they do not reach the stage of actual articulatory movements, so powerful an inhibitory influence that the subject becomes totally unable to speak. This is in perfect accord with the observation of Stricker, who found that two verbal motor images cannot exist at the same time. Already occupied by the hallucinatory motor image, the consciousness remains closed to normal motor images. Verbal motor hallucinations are thus a *cause of mutism.*

Graphic motor hallucinations affect written speech. "The graphic image then comes into play, and in consequence of the morbid irritability of the special cortical centre for written speech the patient has the exact perception of a word with the aid of the representations of the co-ordinate movements which would accompany it if he were really writing the word." [1]

[1] Séglas. *Les troubles du langage*, p. 246.

When this morbid irritation attains a certain degree of intensity the hallucination becomes a *graphic impulse* and gives rise to *automatic writing*, which is often met with in the "writing mediums."

The interpretation of motor hallucinations varies in different patients. Some complain that their enemies govern their tongues by means of invisible wires. Others, feeling themselves no longer masters of their own organs, are naturally led to think that a strange personality has become established alongside of themselves. Some of the "possessed" of the mediæval times undoubtedly had motor hallucinations.

Motor hallucinations generally involve a grave prognosis. They indicate an already advanced disaggregation of the personality. Therefore they are chiefly encountered in the chronic psychoses; they may appear, however, in certain acute psychoses, such as melancholia (Séglas) and alcoholic systematized delirium (Vallon, Cololian).[1]

Theories of hallucinations.—I shall but mention the so-called psychological theory, according to which hallucinations are supposed to be a phenomenon purely of ideation. Physicians and physiologists have long ago abandoned this theory. But though all the authors to-day admit the existence of a material pathological process as the foundation of hallucinations, they are far from being in accord as to its nature and as to its seat.

Jean Muller is of the opinion that hallucinations are

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[1] Cololian. *Les hallucinations psycho-motrices verbales dans l'alcoolisme.* Arch. de Neurol., Nov. 1899.

the consequence of an abnormal irritation of the peripheral sensory organ.

According to Meynert they result from the automatic activity of the subcortical cerebral centers, which are no longer inhibited by the cerebral cortex as they are in the normal state.

The primary cause of hallucinations would thus be a suppression of the inhibitory power of the cortex, which is one of the manifestations of cortical paralysis. The hallucination is then the consequence of a supremacy of the inferior cerebral functions over the higher ones.

Finally, according to Tambourini, whose opinion is to-day the most widely accepted one, hallucinations are produced by the *automatic activity of a psycho-sensory projection-center.*

Under what conditions does the automatism of the projection-center come into play? Is it under the influence of direct irritation resulting, for instance, from a tumor or from a circumscribed patch of meningitis localized exactly at this center? Such cases occur. Sérieux[1] has observed verbal motor hallucinations in a general paretic in whose case the autopsy showed a predominance of the lesions of meningo-encephalitis at the level of the lower portion of the left third frontal convolution. The lesion must not, however, be a too destructive one. "Indeed, for a center to be able to produce hallucinations, it is necessary that conditions of integrity be preserved sufficient to permit its activity" (Joffroy).[2]

[1] *Sur un cas d'hallucination motrice verbale chez une paralytique générale.* Bull. de la soc. de méd. ment. de Belgique, 1894.

[2] *Les hallucinations unilatérales.*—Siebert has also reported a case

Most frequently, however, the center of projection is not the seat of any demonstrable lesion. It seems, then, that in most cases the hallucinations are the consequence, not of a direct irritation of the psychosensory center itself, but rather of an indirect irritation coming from another portion of the cortex. This explains why hallucinations are always a secondary phenomenon, and why they are but an expression, a reflection of the pathological prëoccupations of the patient.

Wernicke has conceived a very ingenious theory of hallucinations, founded upon his general hypothesis of *sejunction*. By this term he designates a temporary or permanent interruption of the paths followed normally by a nervous impulse. This impulse cannot pass on freely, and accumulates above the point of the lesion like the water in a river above a dam. When this accumulation occurs in a psychosensory projection-center it determines there a state of abnormal irritation of which the clinical expression is a hallucination.

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in which very pronounced hallucinations of the sense of smell persisted for a long time and subsequently disappeared by degrees. At the autopsy the hippocampus was found to be destroyed by a tumor. The author supposes that the hallucinations were caused by irritation of the center in question by the growth, and that they did not cease until this center was destroyed. (Monatschr. für Psych. u. Neurol., Vol. VI.)

CHAPTER III.

SYMPTOMATOLOGY (*Continued*).

CONSCIOUSNESS. — MEMORY. — VOLUNTARY ASSOCIATIONS OF IDEAS.—ATTENTION.—AUTOMATIC ASSOCIATIONS OF IDEAS.—JUDGMENT.

§ 1. Disorders of Consciousness.

The consciousness may be *weakened*, resulting in unconsciousness or in clouding of consciousness; or *exaggerated*, causing hyperconsciousness.

Weakening of consciousness.—*Unconsciousness* exists physiologically in dreamless sleep, and pathologically in coma and in complete stupor.

Clouding of consciousness represents the fundamental element of many psychoses. It is always coupled with more or less complete *disorientation.*

A complete orientation implies the integrity of the following three notions:

1. The notion concerning our own personality (autopsychic orientation of Wernicke);

2. The notion concerning the external world (allopsychic orientation of the same author);

3. The notion of time.

These three notions may disappear together or singly. We shall see later that in certain affections,

notably in delirium tremens, the orientation of time and place is lost, while that of personality remains intact. The patient is ignorant of the fact that he is in a hospital ward, does not appreciate his surroundings, and cannot give even approximately the real date. But he knows that he is Mr. X., following such and such an occupation, so and so many years old, born on such and such a day, etc.

Allopsychic disorientation, or loss of the notion of the external world, is often coupled with many hallucinations. Some authors see in the two symptoms a causative relation; the hallucinations transport the patient to an imaginary world, thus making him lose the notion of the real world. Experience does not bear out this hypothesis: 1) because the orientation may be perfectly preserved in spite of intense and unceasing hallucinations; 2) because, inversely, it may be profoundly disordered without there being hallucinations of any kind; 3) because in most of the cases in which these two symptoms are associated the disorientation precedes the psychosensory disturbances.

Influence of enfeeblement of consciousness upon the emotional state and upon the reactions.—Unconsciousness and clouding of consciousness find expression, in the emotional sphere, in indifference and dullness; and, in the psychomotor sphere, in aboulia which in extreme cases may amount to complete inaction.

If complicated by symptoms of excitement, hallucinations and illusions, delusions, or anxiety, clouding of consciousness is accompanied by emotional phenomena and reactions characteristic of each of these states. It is important to remember above all that the disorder

of consciousness may impart to the reactions of the patient a more or less impulsive character; hence their brutal and sometimes ferocious nature.

Diagnosis of enfeeblement of consciousness.—Unconsciousness is generally apparent from the absolute indifference of the subject who fails to react even to the strongest stimulation. However, it is necessary to exercise great caution in many cases. We shall see later on that certain patients, the *catatonics*, present all the appearances of unconsciousness and may nevertheless preserve a perfect lucidity; the disorder of consciousness is here only a seeming one. Quite often one is obliged to wait before making a decision; when the attack passes off, the patient himself may tell of his former condition, either declaring that he has no recollection of what has passed during the attack,—in which case the unconsciousness was real,—or explaining that, though receiving the external impressions, he was unable to react,—in which case the unconsciousness was but a seeming one.

Clouding of consciousness is determined by putting to the subject a series of questions concerning his age, his occupation, the date, the surroundings, and the persons about him.

States of obscuration.—By this term are designated those pathological states in which the disorder of consciousness is the dominant feature. States of obscuration vary greatly in their aspect, and probably also in their nature. All, however, possess one feature in common: they leave behind them an almost complete amnesia for the occurrences that have taken place during their entire duration. But the state of con-

sciousness at the time of the attack itself is very difficult to determine, and probably varies greatly.

Often patients afflicted with violent delirium have but an extremely confused notion of their surroundings, and their acts bear the character of complete automatism. Such are cases of epileptic delirium.

Others, on the contrary, perform complicated acts, such, for instance, as are involved in a long voyage, in a sober and reasonable manner and without attracting anybody's attention; and still they may have no subsequent recollection of these acts.

It can scarcely be assumed that in these two cases the disorders of consciousness are essentially identical.

Exaggeration of consciousness. — Morselli distinguishes two kinds of hyperconsciousness: "Hyperconsciousness with diffuse introspection, when the self-consciousness is referred to organic phenomena, giving rise to illusions and hallucinations of general sensibility and of cœnæsthesia in melancholiacs, hypochondriacs, and paranoiacs; and hyperconsciousness with concentrated introspection, when representations are perceived and emotions experienced with an abnormal intensity: hence the ecstasy of spontaneous or induced (hypnotic) hallucinatory states." [1] Generally hyperconsciousness is but partial: certain sensations or certain representations absorb the conscious psychic activity to the partial or complete exclusion of others.

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[1] Morselli. *Loc cit.*, p. 754.

§ 2. Disorders of Memory.

An act of memory comprises three distinct operations:

1. The fixation of a representation;

2. Its conservation;

3. Its revival, that is to say its reappearance in the field of consciousness.

These may be disordered together or singly; hence the three kinds of amnesia:

A. Amnesia by default of fixation (or simply amnesia of fixation), also known as *anterograde amnesia*;

B. Amnesia of conservation;

C. Amnesia of reproduction.

The latter two affect impressions previously acquired and constitute *retrograde amnesia;* there are therefore two varieties of retrograde amnesia: 1) by default of conservation, and 2) by default of reproduction.

A. Amnesia of fixation. Anterograde Amnesia.—The power of fixation (*Merkfähigkeit* of German authors) is dependent upon the distinctness of the perceptions. Therefore all conditions in which the perceptions are vague and uncertain are accompanied by a more or less marked amnesia of fixation; such is the case in the epileptic deliria and acute confusional insanity.

Distinctness of perception is therefore a condition necessary for the normal functioning of memory; it is, however, not in itself a sufficient condition. An impression, though very clear and very precise at the moment, may not fix itself upon the mind. Thus in the polyneuritic psychosis the patient understands perfectly the questions put to him, executes properly the orders that are given him, so that on a superficial

examination he may convey the impression of a normal individual; still he preserves but an incomplete recollection, or none at all, of the occurrences of the whole period of his illness. It seems, then, that for proper fixation is required, besides sufficient distinctness of perception, some other condition the nature of which is as yet undetermined.

B. Retrograde amnesia by default of conservation.—An impression fixed in the memory is preserved for a greater or lesser length of time, depending upon its nature and upon the individual capabilities of the subject. The memory of an important event persists longer than that of an insignificant one. Certain individuals possess a prodigious memory, others a very poor one or almost none at all; between these two extremes there are infinite gradations.

The disappearance, under the influence of some pathological cause, of impressions previously acquired, constitutes what we have termed *amnesia of conservation.* This *destructive,* and consequently *incurable,* form of amnesia is the principal factor of dementia, and is often the first sign that warns the patient's friends and relatives of the approaching condition.

The disappearance of impressions may be more or less complete, depending upon the nature of the dementing process. While many precocious dements for a long time preserve a relatively good memory, general paretics and senile dements present from the beginning of their illness a very marked amnesia.

Amnesia of conservation is generally associated with the other two forms of amnesia: amnesia of fixation and amnesia of reproduction.

C. Retrograde amnesia by default of reproduction.—In the normal state, an impression fixed and preserved in the memory possesses the property of being revived under certain conditions. In pathological conditions this power of reproduction may be suspended: the impressions exist, but they are dormant and cannot be revived. This form of amnesia is encountered in many acute psychoses, notably in manic depressive insanity, in acute confusional insanity, and in the toxic psychoses. Its prognosis is of course much more favorable than is that of the preceding form.

The course of amnesia.—The *onset* may be sudden or insidious; it is often sudden in amnesia of reproduction, —pure or associated with amnesia of fixation,—and almost always insidious in amnesia of conservation.

Amnesia may be *stationary, retrogressive,* or *progressive;* it is stationary when, certain impressions having become destroyed, the defect persists without increasing; retrogressive when the impressions, simply dormant, reappear little by little; and progressive when, as the pathological process continues to act, the number of destroyed impressions becomes greater from day to day.

In progressive amnesia the disappearance of impressions occurs not at random, but in a definite order. "The progressive destruction of memory follows a logical course, a law. *It descends progressively from the unstable to the stable:* it begins with recent impressions which, fixed imperfectly upon the nervous elements, seldom repeated and therefore but feebly associated with others, represent the organization in its weakest degree; it ends with that instinctive, sensory memory which, stably fixed in the

organism and having become almost an integral part of it, represents the organization in its strongest degree. From the beginning to the end the course of amnesia, governed by the nature of things, follows the line of least resistance, that is to say, the line of least organization." [1] In senile dementia, in which the law of amnesia is most perfectly demonstrated, the impressions of old age are the first to become effaced, later those of adult life, and finally those of youth and childhood. Some of the latter may remain intact long after the general ruin of the memory and of the other intellectual faculties. It is not uncommon to meet with advanced senile dements who, though incapable of recollecting the existence of their wife and children, are still able to relate with minute details the occurrences of their childhood or to recite correctly fragments from the works of classic authors.

The law of amnesia, though always the same, is most difficult to demonstrate in those affections in which the enfeeblement of memory progresses very rapidly, where many impressions, like other manifestations of intellectual life, disappear *en masse*. In general paresis the course of the amnesia is much more rapid and much less regular than in senile dementia. This fact, as we shall see, is an important element in diagnosis.

Varieties of amnesia.—Amnesia is said to be *partial* when it involves only one class of impressions, for instance proper names, numbers, certain special branches of knowledge (music, mathematics), or a

[1] Ribot, *The Diseases of Memory.*

foreign language. A young man coming out of a severe attack of typhoid fever forgot completely the English language, which he had spoken fluently before the onset of the illness. Other impressions were quite well preserved. When it involves verbal images the amnesia determines a particular form of aphasia, *amnesic aphasia.*

Amnesia is *general* when it affects equally all classes of impressions. Most of the progressive amnesias are general.

Amnesia may be *limited to a certain period of existence.* In such cases its onset is almost always sudden, and it is either anterograde, or retrograde by default of reproduction.

Localization of recollections.—A recollection of an occurrence, once evoked, is usually easily localized by us as to its position in the past. This power of *localization* disappears in certain psychoses. The patients cannot tell on what date or even in what year some fact occurred, the impression of which they have, however, preserved. The default of localization in the past combined with a certain degree of anterograde and retrograde amnesia produces *disorientation of time.*

Illusions and hallucinations of memory.—In an illusion of memory a past event presents itself to the consciousness altered in its details and in its relation to the patient, and exaggerated or diminished in importance. Thus one senile dement claimed to have superintended the construction of a Gothic cathedral several centuries old, holding, as he said, "the calipers in one hand and the musket in the other to defend myself against the Saracens." Upon inquiry it was

found that the patient had really worked about thirty years previously at the restoration of an old cathedral.

The illusion of memory becomes a true hallucination when the representation perceived as a recollection does not correspond to any actual past occurrence. A patient who had been in bed during several weeks related once that on the previous day he assisted at the coronation of the Russian emperor: this is a representation without an object, an hallucination of memory.

Illusions and hallucinations of memory form the basis of *imaginary reminiscences*[1] which are met with in many psychoses, especially in hysteria and in the polyneuritic psychosis.

I shall mention lastly a curious form of illusion of memory, which has been designated by the name of "illusion of having previously seen. . . . It consists in a belief that what is really a new impression for the patient was previously experienced by him, so that, though it is produced for the first time, it appears to him to be a repetition."[2] One patient claimed that all the occurrences which he was witnessing had taken place a year previously, day by day. He made a great deal of noise at the marriage of one of his sisters, demanding to know why a ceremony which had already been performed a year ago was begun over again, and protesting that it was like a farce.[3]

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[1] Delbrück. *Die pathologische Lüge und die psychisch abnormen Schwindler.*—Koeppen. *Ueber die pathologische Lüge* (Pseudologia phantastica). Charité Annal, Jan. 1898.

[2] Ribot. *Loc. cit.*

[3] Arnaud. *Un cas d'illusion du déjà vu ou de fausse mémoire.* Ann. méd. psych., May–June, 1896.

§ 3. Associations of Ideas and Attention.

Associations of ideas may occur as the result either of voluntary ideation or of the activity of the mental automatism.

Voluntary associations of ideas. Attention. — The functions of attention are: 1) to govern the associations; 2) to regulate the course of representations, that is to say to retain each of them for a greater or lesser length of time in the field of consciousness; and 3) to inhibit the automatic associations which may cause a deviation of the course of voluntary associations.

Enfeeblement of attention is closely connected with a *sluggishness of the voluntary associations of ideas.* This latter symptom is manifested clinically by slowness of apprehension, and experimentally by an increase of the reaction-time, that is to say the time required for a sensation to be transformed into a voluntary and conscious movement.[1]

Enfeeblement of attention and sluggishness of voluntary associations constitute the earliest and most constant manifestations of psychic paralysis.

Their intensity may be of three different degrees:

1st degree: diminished capacity for intellectual exertion, rapid fatigue;

2d degree: intellectual dullness;

3d degree: complete suspension of all voluntary intellectual activity.

Enfeeblement of attention and sluggishness of asso-

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[1] Pierre Janet. *Névroses et idées fixes*, Paris, F. Alcan.—Sommer. *Lehrbuch der psychopathologischen Untersuchungsmethoden*, 1899.

ciations may exist alone, as in certain forms of melancholia, and especially in stupor, in which they attain their highest degree. They may also be associated with an exaggerated activity of the mental automatism, which manifests itself by an abnormal mobility of attention and by a flow of incongruous ideas (flight of ideas, incoherence), or, on the contrary, by the appearance in the field of consciousness of some particularly tenacious and exclusive representation (imperative ideas, fixed ideas, autochthonous ideas).

Abnormal mobility of attention.[1]—In this condition any external impression, whatever it may be, suffices to capture the patient's attention, but nothing can fix it. This symptom exists in its purest form in mania.

Flight of ideas.—Incoherence.—These two symptoms constitute two different degrees of the same morbid process.

Flight of ideas, almost always dependent upon an abnormal mobility of attention, is constituted by a rapid succession of representations which appear in the field of consciousness without any order, at the occasion of external impressions, superficial resemblances, coexistences in time or space, similarities of sounds, etc. One word arouses the idea of another one of a similar sound or having the same termination (association by assonance). The following example from the case of a maniac, whose discourse during several minutes was copied verbatim, will show, better than a description could, the character of this pathological phenomenon:

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[1] It results from an exaggerated activity of what has been termed *spontaneous* attention in contradistinction to *voluntary* attention.

"Now I want to be a nice, accommodating patient; anything from sewing on a button, mending a net, or scrubbing the floor, or making a bed. I am a jack-of-all-trades and master of none! (Laughs; notices nurse.) But I don't like women to wait on me when I am in bed; I am modest; this all goes because I want to get married again. Oh, I am quite a talker; I work for a New York talking-machine company. You are a physician, but I don't think you are much of a lawyer, are you? I demand that you send for a lawyer! I want him to take evidence. By God in Heaven, my Saviour, I will make somebody sweat! I worked by the sweat of my brow! (Notices money on the table.) A quarter; twenty-five cents. In God we trust; United States of America; Army and Navy forever!"

Flight of ideas was formerly considered, especially in mania, the result of excessive activity of the normal intellectual function; it was believed that the patient, unable to express in words the ideas which crowd themselves into the consciousness, is compelled to leave out a large number of them, and that these omissions cause the disconnectedness of his discourse.

In reality this exaggerated activity affects only the automatic intellectual functions and is always associated with an enfeeblement of the higher psychic functions. The essential cause of the phenomenon is to be looked for in a weakness of attention: representation A cannot fix itself upon the consciousness and is immediately replaced by representation B, so that *the ideas fly*.

While in flight of ideas the representations are still associated by their relations, which though superficial

are yet real, in *incoherence* they follow each other without any even apparent connection. The following is a specimen of incoherent speech obtained from a case of dementia præcox: "What liver and bacon is I don't know. You are a spare; the spare; that's all. It is Aunt Mary. Is it Aunt Mary? Would you look at the thing? What would you think? Cold cream. That's all. Well, I thought a comediata. Don't worry about a comediata. You write. He is writing. Shouldn't write. That's all. I'll bet you have a lump on your back. That's all. I looked out the window and I didn't know what underground announcements are. My husband had to take dogs for a fit of sickness."

These few lines suffice to show the profound degree of psychic disaggregation which is manifested by this phenomenon.

It is not infrequent to see the two symptoms, flight of ideas and incoherence, appear in succession, or even together in the same subject, notably in cases of mania and of acute mental confusion.

Imperative ideas. — Fixed ideas. — Autochthonous ideas.[1]—We have stated above that mental automatism may manifest itself by the appearance of an idea that is particularly tenacious and exclusive, occupying by itself the field of consciousness from which nothing can dislodge it.[2]

The three forms under which this phenomenon may present itself have been well defined by Wernicke.[3]

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[1] Kéraval. *L'idée fixe.* Arch. de Neurol., 1899, Nos. 43 and 44.

[2] This form of mental automatism may be termed *monoideal automatism.*

[3] *Loc. cit.*, p. 108.

An imperative idea imposes itself upon the patient's consciousness against his own will; he recognizes its pathological character and seeks to rid himself of it. It is a parasitic idea, recognized by the patient as such.

A mother is haunted by the idea of killing her child whom she loves dearly. As she herself states, she can no longer think of anything else; but she recognizes it as a morbid phenomenon and begs to be relieved of it: this is an imperative idea.

A fixed idea, on the contrary, harmonizes with the other representations. Therefore it is never considered by the subject as foreign to the mind or as a pathological phenomenon.

A mother who has lost her child is convinced that if she had given it a certain kind of medicine the child would not have died. This idea does not leave her, appears to her perfectly legitimate and natural: this is a fixed idea.

Fixed ideas form the basis of certain delusional states, notably that of paranoia. They are also the starting point of a great many hysterical episodes. In such cases they are often *subconscious*, that is to say, they exercise their influence without the patient's being conscious of their existence.

Fixed ideas are not found exclusively in cases of mental alienation; they are encountered in the normal state as certain tendencies that may be in themselves perfectly legitimate. Such are the desires for vengeance, ambition, etc.

Autochthonous ideas, like imperative ideas, are developed alongside of normal associations. The only difference is in the patient's interpretation of them;

while the imperative idea is recognized by him as pathological, the autochthonous idea is attributed to some malevolent influence, most frequently to some strange personality. If he complains, it is to the police officer and not to the physician. A mother believes that her neighbor forces upon her the idea of killing her child: this is an autochthonous idea.

Closely related to imperative ideas, autochthonous ideas present a similar analogy to hallucinations; like hallucinations, they result from the automatic activity of a cortical center. But, instead of playing upon a psychosensory center, the morbid irritation occurs in a psychic center. Baillarger designated autochthonous ideas by the term of *psychic hallucinations*.[1] This term has lately fallen into disuse, perhaps undeservedly.

Nothing proves more conclusively the kinship of the two classes of symptoms than the frequent transformation of autochthonous ideas into auditory, motor, and occasionally even visual, verbal hallucinations. The analogy between autochthonous ideas and verbal motor hallucinations led Séglas [2] to consider the two phenomena as identical in their nature, the first being but a rudimentary form of the second. This opinion will appear somewhat exclusive if we take into consideration the fact that autochthonous ideas may engender auditory hallucinations [3] just as readily as motor hallucinations, and that in many cases they are not accompanied by even the slightest sensation of movement.

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[1] Marandon de Montyel. *Des hallucinations psychiques.* Gaz. hebd. de Méd. et de Chirurgie, March, 1900.

[2] *Leçons cliniques sur les maladies mentales et nerveuses.*

[3] Wernicke. *Loc. cit.*

Psychic hallucinations generally indicate an advanced disaggregation of the personality and therefore point to a grave prognosis.

§ 4. Disorders of Judgment.

Judgment is the act by which the mind determines the relationship between two or more representations. When the relationship is imaginary the judgment arrives at a false conclusion. This becomes a delusion when it is in conflict with evidence.

False ideas which patients often entertain concerning their own condition, believing their health to be perfect when in reality it is seriously affected, are to be attributed to impaired judgment [lack of insight]. This lack of appreciation of their own condition is not always absolute, and though in general it may be truly said that insanity is a disease which does not recognize itself, it must, however, be acknowledged that sometimes, chiefly at the onset of the psychoses, the patients are conscious of pathological changes occurring in themselves.[1]

Some spontaneously apply to the physician or even request to be committed. A sufferer from recurrent insanity, treated several times at the Clermont Asylum, had at the beginning of his attacks such a perfect realization of his state that he would request by telegram to have attendants sent after him.

General features of delusions.—The ensemble of a patient's delusions constitute a *delirium*.

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[1] Pick. *Ueber Krankheitsbewusstsein in psychischen Krankheiten.* Arch f. Psychiat., Vol. XIII.—Heilbronner. *Ueber Krankheitseinsicht* Allg. Zeitsch. f. Psychiat., Vol. LIV. No. 4.

A delirium may consist of purely imaginary ideas, or it may be based upon actual facts improperly interpreted.

In the latter case we have *delusional interpretations*. When the delusional interpretations involve occurrences of the past the delirium is said to be retrospective.

Sometimes the delirium follows a dream, is confounded with it, and presents all the characteristics of it (*dream delirium*); such is the case in many infectious and toxic psychoses.

Almost always the delusions are multiple. Even in those cases which are sometimes designated by the term monomania, the primary morbid idea entails a certain number of secondary morbid ideas which result from it. In some cases different delusional conceptions coexist without there being any connection between them, in others they are grouped so as to form a more or less logical whole possessing greater or lesser probability. In the first instance the delirium is said to be *incoherent*, in the second *systematized*.

Whether systematized or not, delusions, like hallucinations, generally harmonize with the emotional tone. This harmony disappears when the pathological process becomes abated in intensity, as the patient either enters upon his convalescence or lapses into intellectual enfeeblement. In dements the delusions often affect neither the emotions nor the reactions. A patient may claim that he is an emperor and at the same time agree to sweep the hall; another may believe himself to have lost his stomach and still eat with a hearty appetite.

Three great categories of delusions are usually distinguished:

Melancholy ideas;
Ideas of persecution;
Ideas of grandeur.

We shall limit ourselves here to a rapid review of these, reserving the details to be considered in connection with the affections in which the delusions occur.

Melancholy Ideas.—Very frequent at the beginning of psychoses, melancholy ideas may persist through the entire duration of the disease, as in affective melancholia.

The principal varieties are:

(A) Ideas of humility and of culpability. The atter are also called ideas of self-accusation;

(B) Ideas of ruin;

(C) Hypochondriacal ideas;

(D) Ideas of negation.

A. Ideas of humility and of culpability.—The patient considers himself as a being good for nothing, wretched, undeserving of the attention bestowed upon him, and accuses himself of imaginary faults or crimes. Often he will seek out from his past life some insignificant act to which he will attribute extreme gravity: he stole some apples when he was a boy, or he forgot to make the sign of the cross once upon entering a church. The idea of the crime committed entails also ideas of merited punishment: he expects every instant to be arrested, put to death, cut to pieces, thrown into hell, etc.

B. Ideas of ruin.—These are frequent in senile dements; the patient believes himself to be without any means, bereft of everything; his clothes will be sold; some day he will be found dead of starvation on some public road.

C. Hypochondriacal ideas.—These concern the subject himself, involving either the physical sphere—the stomach is obstructed, the spinal marrow is softened, the entire organism is affected by an incurable disease—or the psychic sphere constituting moral hypochondriasis: the mind is paralyzed, the intelligence is destroyed, the will power is annihilated.

D. Ideas of negation.[1]—In some cases these concern the subject himself, and are then nothing but hypochondriacal ideas pushed to an extreme: the brain, the heart, etc., are destroyed, the bones are replaced by air, the body is nothing but a shadow without a real existence. In other cases they are referred to the external world: the sun is dead, the earth is nothing but a shadow, the universe itself exists no more (metaphysical ideas of negation).

By a singular process, apparently paradoxical, hypochondriacal ideas and those of negation give rise to ideas of immortality and of immensity. The patient feeling himself, on account of the destruction of his organs, placed beyond the laws of nature, concludes that he cannot die, and that he is condemned to suffer eternally; or, dismayed by the form and monstrous dimensions of his body, he imagines himself obscuring the atmosphere, filling the world, etc.

By the name "the syndrome of Cotard" has been

[1] Séglas. *Leçons cliniques*, p. 276.—Cotard. *Du délire des négations.* Arch. de neurol., 1882.—Arnaud. *Sur le délire des négations.* Ann. méd. psychol., Nov.-Dec. 1892.—Séglas. *Le délire des négations.* Encycl. des Aide-mém.—Trénel. *Notes sur les idées de négation.* Arch. de neurol., March 1899.—Castin. *Un cas de délire hypochondriaque à forme évolutive.* Ann. méd. psych., June 1900.

designated a group of symptoms which is encountered in certain cases of chronic melancholic delusional states the constituent elements of which are:

Ideas of negation;

Ideas of immortality associated with ideas of damnation or of being possessed; ideas of immensity;

Melancholic anxiety;

Tendency to suicide;

Analgesia.

The general features of melancholic deliria are the expression of psychic inhibition and of the painful emotional state which constitute the basis of the melancholic state.

The following is a summary of the chief characteristics of these states, according to the admirable study of Séglas:

a) The melancholic delirium is *monotonous;* the same delusions are constantly repeated, the inhibition allowing but little formation and appearance of new ideas.

b) It is an *humble and passive* delirium. The patient accuses no one but himself, and submits without resistance to the ill-treatment which he believes himself to be deserving of.

c) As to localization in time, the delusions are referred to the *past* and to the *future:* the patient finds in the past the imaginary sins which he has committed, and foresees in the future the chastisements which are to be inflicted upon him. The persecuted patient, on the contrary, localizes his delusions chiefly in the present. The persecutions of which he complains are actual.

d) From the standpoint of its development the melancholic delirium is *centrifugal*. The trouble begins with the subject himself and extends gradually to his friends, to his country, and to the entire universe, who suffer through his faults.

e) The melancholic delirium is *secondary*, that is to say, it is the consequence of the sadness and of the moral pain. It shares this characteristic with most of the other delusional states which are generally but the expression of the emotional tone of the subject.[1]

Melancholic delirium may have two grave consequences which I shall have a great deal of occasion to emphasize: suicide and refusal of food.

Ideas of persecution.—Like melancholy ideas, ideas of persecution are of a painful character. But while the melancholiac considers himself a culpable victim and submits beforehand to the chastisements which he believes he has merited, the subject of persecution is convinced of his innocence and protests and defends himself.

Ideas of persecution may be divided into two groups, according to whether they are or are not accompanied by hallucinations.

In the first group they are associated with hallucinations, generally of an unpleasant character, among which auditory verbal hallucinations and hallucinations of general sensibility are most prominent. After a certain time the phenomena of psychic disaggregation supervene: motor hallucinations, autochthonous ideas, reduplication of the personality, etc.

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[1] Séglas. *Leçons cliniques.*

In the second group the ideas of persecution are peculiarly associated with faulty interpretations; any chance occurrence is ascribed by the patient to malevolence; he sees in everything evidences of hostility against him, and attributes to the most ordinary and unimportant facts and actions a significance which is as grave as it is fanciful. This form of ideas of persecution is frequent at the onset of certain psychoses; it also constitutes the basis of an affection known as paranoia or reasoning insanity.

Some patients do not know their persecutors. Others accuse some particular persons or societies (Jesuits, Freemasons). Still others bear their hatred towards some certain individual who is, in their eyes, the instigator of all the injurious procedures of which they are the victims, "the great master of the persecutions," as one such patient once said.

Of all delusions those of persecution are the most irreducible and are entertained by the patients with the most absolute conviction. Almost always the patients resent to have them disputed. In themselves these delusions do not have an invariable influence upon the prognosis, excepting that, in a very general way, they are of more serious import than melancholy ideas.

Of all delusions these also present the greatest tendency to systematization and to progressive evolution. A perfectly systematized persecutory delirium should comprize:

(*a*) A precise idea of the nature of the persecutions;

(*b*) An exact knowledge of the persecutors, of their aim, and of the means employed by them;

(*c*) A plan of defense in harmony with the nature of the delusions.

In the examination of cases of persecutory delirium one should always attempt to determine these points, on account of their great practical importance.

Ideas of grandeur.—Ideas of grandeur chiefly appear in demented states and are often of a particularly absurd nature, bearing the stamp of intellectual enfeeblement. The patients are immensely rich, all-powerful; they are popes, emperors, creators of the universe. Generally they naïvely declare these pompous titles without being at all concerned by the flagrant contradiction existing between their actual state and their ostensible almightiness. A general paretic was once asked: "If you are God, how, then, does it happen that you are locked up?" "Because the doctor refuses to let me go," he replied simply. It is not rare to see a pseudo-pope obey without a murmur the orders of hospital attendants and assist with the best possible grace in the most menial labor.

Often the patient's costume is in harmony with the title: uniforms of the oddest fancy, multicolored tinsels, numerous decorations, etc.

When the intellectual enfeeblement is less pronounced, as, for instance, in certain cases of dementia præcox, the subject shows more logic in his conduct. He assumes an air of dignity, avoids all association with the other patients, and declines with a contemptuous smile all suggestions of employment.

Ideas of grandeur are also met with in certain acute psychoses, as in mania, for instance, and in certain forms of systematized deliria without intellectual enfeeblement ("Paranoia originaire" of Sander).

CHAPTER IV.

SYMPTOMATOLOGY (*Continued*).

AFFECTIVITY.—REACTIONS.—CŒNESTHESIA—NOTION OF PERSONALITY.

§ 1. Disorders of Affectivity.

Pathological modifications of affectivity are encountered in the course of all psychoses. They always appear early, and often before any of the other symptoms.

The principal ones are:

(*a*) Diminution of affectivity: morbid indifference;

(*b*) Exaggeration of affectivity;

(*c*) Morbid depression;

(*d*) Morbid anger;

(*e*) Morbid joy.

Diminution of affectivity.—In its most pronounced degree indifference involves all the emotions, as in extreme states of dementia (general paresis and senile dementia in their terminal stages), in which it is associated with general intellectual enfeeblement. In its less severe forms the indifference is manifested by disappearance of the most elevated and the most complex sentiments, with conservation and often even exalta-

tion of the sentiments of an inferior order. The altruistic tendencies are the first to become effaced, while the egoistic sentiments persist. Only the satisfaction of their material wants still concerns the patients and governs their activity. Many take no interest during the visits of relatives in anything excepting the eatables brought to them; they eat as much as they can, fill their pockets with the rest, and leave without taking the trouble to express their thanks or even to bid their visitors good-by.

The morbid indifference may be *conscious* or *unconscious*. In the first case it is realized by the subject as a painful phenomenon. The patients often say: "I have lost all feeling, nothing excites me, nothing pleases me, nothing makes me sad." Some complain of being unable to suffer. This state, which may be called *painful psychic anæsthesia*, is frequent at the beginning of psychoses and sometimes persists through the entire duration of the affection (affective melancholia, depressed periods of recurrent insanity).

In the second case, which is more frequent, the diminution of affectivity is not noticed by the patient. Such is always the case in states of dementia.

The alteration of the other mental faculties, such as memory and general intelligence, are not necessarily proportionate to those of the affectivity. Notably, in dementia præcox it is not rare to find a fairly good memory and a relatively lucid intelligence coexisting with complete indifference.

Exaggeration of affectivity.—Often combined with indifference, as has been shown above, exaggeration of affectivity is encountered in most mental affections,

congenital and acquired. It constitutes the basis of irritable and changeable moods and of the extreme irascibility so often seen among the insane and among degenerates in general.

In the acquired psychoses it is an early symptom, appearing at times long before the other phenomena. An individual previously calm, gentle, kind, becomes disagreeable, ill-natured, violent. "He is completely changed," is often remarked by the relatives.

Irritability is almost always associated with variability of moods.

Disorders of affectivity serve to characterize a large and important group of patients included under the somewhat vague designation of "constitutional psychopaths." In these individuals the emotions are entirely out of proportion with their causes. The death of an animal plunges them into unlimited despair, the sight of blood brings on syncope, the most simple affairs preoccupy their minds so as to make them lose their sleep. Sensitive in the highest degree, they see in everything malevolent intentions, disguised reproaches. But their sentiments, though very intense, are of short duration; sorrows, enthusiasms, resentments are with them but a short blaze.

Morbid depression. — Depression presents itself in pathological states, as it does in the normal state under two forms: active and passive. This distinction is founded upon the presence or absence, or rather upon the intensity, of the *moral pain*. While in active depression the moral pain is very prominent, in passive depression it is dull, vague, scarcely appreciable. Indeed, as Dumas says, "the element of pain is not absent

in passive melancholia; but it is not an acute and distinct moral pain. It is but vaguely perceived." [1]

Passive depression.—The fundamental features of passive depression are lassitude, discouragement, resignation. It is always associated with a marked degree of *psychic inhibition, aboulia*, and *moral anæsthesia*, and may be complicated by delusions and hallucinations. It is accompanied by organic changes which have been extensively studied by physiologists (Darwin, Claude Bernard, Lange), and to which Dumas has devoted one of the most interesting chapters in his book, "*La tristesse et la joie.*"

Depression is always associated with a state of peripheral and probably cerebral vaso-constriction, in which Lange believed he had found the immediate cause of this emotion. This vaso-constriction is very evident in the pallor of the skin, coldness of the extremities, and absence of the peripheral pulse, which are constant features of the depression of melancholia. The opinion of Lange is, however, too exclusive. "This vaso-constriction, which in the peripheral organs results in coldness and pallor of the tissues, brings about in the brain a condition of anæmia, undoubtedly contributing to the maintenance of the mental and motor inertia; but it cannot be asserted with certainty that it is the *only* cause of these phenomena. Morselli and Bordoni-Uffreduzzi have shown long since, in fact, that the phenomena of depressed intellectual activity may appear before the cerebral circulatory changes; this leads to the conclusion that depression begins with being the

[1] *La tristesse et la joie*, p. 29. Paris, F. Alcan.

cause of the circulatory changes before becoming subject to their influence." [1]

In the very rare cases in which, in spite of the peripheral vaso-constriction, the cardiac impulse retains its force, the blood pressure, according to the laws formulated by Marey, rises; this condition constitutes the first type of depression, depression with hypertension.

But almost always the heart participates in the general atony which the depression gives rise to, so that the blood pressure falls in spite of the peripheral vasoconstriction: this constitutes the second type of depression, depression with hypotension (Dumas).

The *respiratory disorders* are no less constant than the circulatory ones. The respirations are shallow, irregular, interrupted by deep sighing. The quantity of carbon dioxide excreted tends to diminish.

The general nutrition is impaired; this results in loss of flesh, which is but slight if the depression lasts no longer than a few days, and which persists as long as the affective phenomenon itself. The weight does not return to the normal until the depression disappears, i.e., until the patient either recovers or becomes demented.

The appetite is diminished the tongue is coated, the breath is offensive. The process of digestion is accompanied by uneasiness and often by pain in the epigastrium. Finally, there is almost always constipation.

The sluggish metabolism shown by the diminished elimination of carbon dioxide is also apparent from the quantitative and qualitative changes in the urinary

[1] Dumas. *Loc. cit.*, p. 239.

excretion. The quantity of urine voided in twenty-four hours is diminished. The quantity of urea, as well as that of phosphoric acid, is also diminished (Observations of Dumas and Serveaux).

The toxicity of the urine in depression is undoubtedly of interest, but the results so far obtained are somewhat conflicting. According to some authors it is increased, according to others, diminished. This subject, still in a state of confusion, should be excluded from the domain of practical psychiatry.

Active depression.—The special feature of active depression is the *moral pain*, which is distinct and sufficiently intense to render the subject subjectively conscious of it. The appearance of this new phenomenon modifies to a certain extent the fundamental symptoms which have been described in connection with passive depression.

Like physical pain, moral pain tends to limit the field of consciousness, to exclude other intellectual manifestations, and to become what Schüle has designated by the term *pain-idea*. In certain cases the disturbance of consciousness which it causes results in marked disorientation and confusion. These phenomena, caused by the pain, become less marked as the pain becomes abated in intensity and disappear as the paroxysm passes off.

When moral pain attains a certain intensity, it results in *anxiety*. This phenomenon consists chiefly in a feeling of oppression or constriction, most frequently localized in the precordial region, occasionally in the epigastrium or in the throat, and more rarely in the head. This peculiar feeling is always accompanied by

certain somatic phenomena, the most important of which are pallor of the skin, sometimes actual cyanosis, panting respiration, general tremor, irregular and accelerated pulse, and dilatation of the pupils, which is often very marked.

Anxiety is frequently seen in depressed states. It also occurs in obsessions. It may appear without cause in certain psychopaths (the paroxysmal anxiety of Brissaud).

From the standpoint of the reactions, moral pain, like physical pain, may manifest itself either by a sort of psychomotor paralysis,—so that the patient remains immovable, with a haggard expression, silenced, so to speak, by the anxiety,—or by various phenomena of agitation.

In the latter case, the more frequent, the pain, an active phenomenon, brings about a reaction which to a certain extent overcomes the fundamental psychic inhibition and manifests itself by two symptoms which are frequently seen together, motor activity and delusions.

Acting as a stimulus, moral pain overcomes the motor inertia of melancholia and gives rise to *melancholic agitation*, which is characterized by movements that are, in the normal state, the expression of violent despair. The patient wrings his hands, strikes his head against the wall, etc. The agitation of anxiety is essentially an expression of opposition, of resistance. The reactions are either automatic or governed by the delusions: movements of flight, refusal of food, attempts at suicide, etc.

Suicide is one of the most formidable consequences of moral pain. Though most melancholiacs have a desire

to die, the aboulia which characterizes the state of depression very seldom permits them to carry out their desire. On recovering part of their energy they are apt to make suicidal attempts.

Delusions are a frequent but not a constant manifestation of moral pain. They are absent in certain melancholias in spite of the existence of even very painful depression.

What is the mechanism of the production of delusions in melancholia? The most widely accepted opinion is that of Griesinger:[1] "The patient feels that he is a prey to sadness; but he is usually not sad except under the influence of depressing causes; moreover, according to the general law of cause and effect, this sadness must have a ground, a cause,—and before he asks himself this question, he already has an answer; all kinds of mournful thoughts occur to him as explanations. dark presentiments, apprehensions, over which he broods and ponders until some of these ideas become so dominating and so persistent as to fix themselves in his mind, at least for some time. For this reason these delusions have the character of attempts on the part of the patient to explain to himself his own state."

Though of great interest, this ingenious theory is perhaps somewhat too exclusive. Kraepelin remarked, in fact, that the delusions occurring in states of depression do not always present the character of explanations sought by the patient. Many melancholiacs instead of accepting the delusions, on the contrary

[1] Griesinger. *Pathologie und Therapie der psychischen Krankheiten.*

reject them, at least in the beginning. Again, the appearance of a delusion does not bring with it the relative calm which would be expected if it would really constitute the explanation sought by the patient. It seems, then, that this interpretation, ingenious though it is, is rather superficial. The view of Dumas appears to be nearer the truth. The moral pain provokes delusions because it acts as a stimulus, struggling against the lassitude, and finally conquering it. Thus there is no logical relationship between the moral pain and the delusions, but rather a dynamic one.

Morbid anger.—Pain, associated with a representation of its cause, and sufficiently intense to overcome the psychic paralysis which is an essential accompaniment of depression, results in anger.

The violent and disordered reactions displayed in anger have a purely automatic origin, and are often associated with a disturbance of consciousness and of perception which finds various expressions in popular language; a man who is a victim of violent anger is often said to be "beside himself," he "forgets himself."

Like all emotions, anger is accompanied by somatic changes. The principal ones are: an increase of cardiac activity and an elevation of arterial tension; peripheral vaso-dilatation, chiefly noticeable in the face which assumes a congested appearance; jerky and convulsive respiratory movements; an increase of most of the secretions: abundant salivation (foaming), more or less jaundice, diarrhœa, polyuria; sometimes a suspension of the milk secretion; an arrest of the menstrual flow; more or less marked cutaneous anæthesia; general tremor.

Anger may be met with in all the psychoses, excepting perhaps affective melancholia. It sometimes reaches the intensity of furor, notably in idiots, epileptics, and other patients with profound disorders of consciousness. It is always associated with morbid irritability and impulsiveness, of which it is but an expression.

Morbid joy or morbid euphoria.—This presents itself in two forms: one, a calm joy, analogous to passive depression; the other, an active, exuberant joy, analogous to active depression.

The first when of average intensity manifests itself by a state of satisfaction, a vague sense of well-being. It is encountered in general paresis and in certain forms of tuberculosis. The optimism and astonishing contentment of some consumptives who have reached the last stage of their illness are well-known phenomena.

When calm euphoria reaches its highest development it becomes *ecstasy*, in which it is not accompanied by any motor reaction. Such is the case in certain forms of mystic deliria.

Much more frequent than this calm and tranquil form of euphoria, the *active* form, noisy, accompanied by motor reactions, is a constant symptom of the so-called expansive forms of psychoses: general paresis with excitement, mania, certain toxic deliria.

Unlike depression, euphoria permits of an easy association of ideas and quick motor reactions. These two phenomena do not always indicate real psychic activity. In fact most frequently in pathologic euphoria the associations formed are aimless, independent of all

voluntary intellectual activity, and the motor reactions bear the stamp of impulsive acts originating automatically.

When pushed to a certain degree, the apparent rapidity of the associations develops into flight of ideas mentioned previously.[1]

The aspect of the patient in euphoria is the direct opposite of that in depression. The expression is bright, smiling, with the head raised and the body upright. The speech is very animated and accompanied by numerous gestures.

The concomitant physical phenomena are in general those of joy, that is to say, the reverse of those of depression.

First come the cardio-vascular and respiratory phenomena: peripheral (and probably cerebral) vaso-dilatation, acceleration of the pulse, increased force of the cardiac impulse, and an elevation or a lowering of the blood pressure, depending upon whether the increased heart action does or does not compensate for the peripheral vaso-dilatation.

The respirations are accelerated, deep and regular; the elimination of carbon dioxide is increased. The general nutrition is active, as is seen from the patient's gain in flesh and from the increase of excrementitious products in the urine.

These different phenomena, constant in normal joy and frequent in morbid euphoria, are however absent in some cases, when other factors are present which counterbalance the favorable influence of joy. Such is the case when there is intense motor agitation, which,

[1] See pp. 66 and 67.

in spite of the euphoria, causes a rapid loss of flesh. Such is the case also when the underlying condition is some severe bodily affection. The general paretic or the consumptive with euphoria is none the less cachectic, for in such cases a generally flourishing state of health is not possible.

Certain anomalies are very difficult to explain. Some maniacs show, instead of an acceleration of the pulse characteristic of states of euphoria, a slowing which is at times quite marked. I have observed in a young maniacal girl with marked excitement less than forty-five pulsations per minute for several days. This phenomenon has, I think, not as yet been satisfactorily explained.

§ 2. Disorders of the Reactions.

The different psychic operations which we have so far considered,—perception, associations of ideas, affective phenomena,—find their outward expression in the reactions. Like associations of ideas, reactions may be of two kinds: *voluntary* and *automatic*.

Between a voluntary act accomplished in full self-possession and a purely automatic act there are all intermediate gradations; we pass from the one to the other by a gradual insensible transition. The participation of the conscious will diminishes as that of the automatism becomes more prominent, or inversely.

We have seen that in normal ideation voluntary and conscious associations tend to inhibit the automatic associations. Similarly the conscious will tends to inhibit the automatic reactions.

We shall study: (1) *aboulia*, or paralysis of voluntary reactions; and (2) *automatic reactions*.

Aboulia.—Complete paralysis of the will brings about, depending upon the character of the case, either stupor or absolute automatism. When less pronounced it is manifested clinically by a general sense of fatigue and discouragement, by slowness and unsteadiness of the movements, and by the painful effort that is necessary for the accomplishment of all spontaneous or commanded acts. The voluntary apparatus then resembles a rusty mechanism which works only with difficulty.

Like sluggishness of the associations of ideas, which is in most cases associated with it, aboulia is a manifestation of psychic paralysis.

Automatic reactions. — These may be paralyzed to the same degree as the voluntary reactions and give place to the absolute inertia of stupor; or, on the contrary, they may become exalted by reason of the enfeeblement of the conscious will.

We distinguish: (A) positive automatic reactions; and (B) negative automatic reactions.

(A) *Positive automatic reactions* are expressed clinically by two phenomena: *suggestibility* and *impulsiveness*.

By *suggestibility* is understood a state in which the reactions are compelled by external impressions. Its most perfect expression is catalepsy, in which the limbs assume and retain the attitudes in which they are placed by the examiner. This phenomenon has been termed waxy flexibility (*flexibilitas cerea*).

Many patients appear to have lost all individual will and are reduced to pure automatons. Some repeat

exactly the words (*echolalia*) or the gestures (*echopraxia*) of the persons around them. Others exhibit no spontaneous activity, but are able to execute without hesitation any command. Such is the case with hypnotized subjects, certain catatonics, etc. Sometimes it suffices to start them moving, when they will continue and accomplish a series of acts to which they are accustomed.

Suggestibility is the dominant note of the character of certain individuals, mostly credulous and weak-minded, whose thoughts are governed by external impressions, whose will is nil, and who yield to the domination of the most diverse influences, good or bad. Many criminals belong to this class.

Impulsive reactions or *impulses* are to be divided into three groups: (*a*) the passionate impulses; (*b*) the simple impulses; (*c*) the phenomena of stereotypy.

(*a*) The *passionate impulses* always depend upon an abnormal irritability. They are determined by causes that are often insignificant and are accomplished independently of any mental reflection. They are met with in a great many patients: constitutional psychopaths, epileptics, maniacs, etc. A maniac feels his neighbor give him a slight push; he immediately strikes him without reflecting that the latter had no malevolent intention, that he was perhaps even unconscious of having touched him, etc. This is a passionate automatic reaction.

(*b*) The *simple impulses*, purely automatic, appear without any emotional shock and without a shadow of provocation. One patient suddenly threw into the fire the gloves, hat, and handkerchief of her daughter

who came to visit her at a sanitarium. Afterwards during a moment of remission she remembered perfectly the act and the circumstances under which it was accomplished, but was not able to furnish any explanation at all for it.

The impulse may be *conscious*. A patient is suddenly seized with a strong desire to steal some object from a show-window, the possession of which could be neither useful nor pleasant to him; he does not yield to this impulse, which he recognizes as pathological. This is a conscious impulse. This phenomenon is closely allied to imperative ideas, of which it is but an accentuation.

(*c*) *Stereotypy* consists in a morbid tendency to retain the same attitudes, or to repeat the same words or the same movements. Hence the three kinds of stereotypy:

Stereotypy of attitudes;

Stereotypy of movements;

Stereotypy of language: verbigeration.

Certain patients remain for hours at a time in the most uncomfortable attitudes; others will walk a long distance, taking alternately three steps forward and two backward; still others will repeat indefinitely the same phrase or the same verse.

(B) *Negative automatism*.—This forms the basis of negativism and consists in the annulment of a voluntary normal reaction by a pathological antagonistic tendency.

The patient is requested to give his hand; the voluntary reaction, which tends to appear and which would result in the execution of the command, is arrested, sup-

pressed by automatic antagonism. This disorder of the will has been designated by Kraepelin, who has made an admirable study of it, by the term "Sperrung," a word which, literally translated into English, means *blocking*. A more significant term perhaps would be *psychic interference*. The two antagonistic tendencies neutralize each other like waves of opposite directions in physics.

On a superficial examination negativism may resemble aboulia. These are, however, two very different phenomena. While the latter, purely passive, is the result of a persistent paralysis against which the patient struggles with more or less success, the former, an active phenomenon, depends not upon a paralysis but upon a perversion of the will. Negativism is often manifested only in certain kinds of reactions. One patient who walks about without any effort does not open his mouth. Another who makes his toilet, eats unassisted, and even works, remains in complete mutism, making no response in spite of all perseverance on the part of the questioner.

In a more marked degree negative automatism results not only in the arrest of normal reactions, but also in the *production of contrary reactions*.

Thus if one attempts to flex the patient's head he extends it, and *vice versa*. If he is requested to open his half-shut eyes he closes them, and if the examiner attempts to force them open, his orbicularis muscle contracts in a veritable spasm. Wernicke observed that while flexibilitas cerea chiefly shows itself in the limbs, negativism mostly affects the muscle groups of the head and neck.

§ 3. Disorders of Cœnesthesia and of the Personality.

Disorders of cœnesthesia.— By cœnesthesia or vital sense is understood "the general feeling which results from the state of the entire organism, from the normal or abnormal progress of the vital functions, particularly of the vegetative functions" (Höffding.) The stimuli which produce this sense are vague and poorly localized, and are perceived not individually but together as a whole.

The harmony which normally exists between the diverse organic functions produces a vague sense of satisfaction and of well-being. All causes tending to destroy this harmony will produce in the consciousness a feeling of malaise and of suffering more or less definite and more or less acute. Thus the disorders of cœnesthesia are intimately connected with disorders of affectivity; most of the depressed states have for their basis an alteration of the vital sense.

Disorders of the personality.—Alterations in the personality constitute the symptom which, following Wernicke, we have termed *autopsychic disorientation.*

These disorders may be arranged in three principal groups:

(*a*) Weakening of the notion of personality;

(*b*) Transformation of the personality;

(*c*) Reduplication of the personality.

(*a*) The *notion of personality* may be incomplete or absent; it may have never been developed at all, or it may have been but incompletely developed, as in idiots

and imbeciles, or it may have disappeared or have become weakened under the influence of a pathogenic cause, as in mental confusion, epileptic delirium, melancholic depression with stupor, etc.

(*b*) *Transformation of the personality* may be complete or incomplete.

In the first case the patients forget or deny everything pertaining to their former personality. Thus one patient claimed that she was Mary Stuart, wanted to be addressed as "Her Majesty the Queen of Scotland," and attired herself in costumes similar to those of that time. She became furious when called by her own name, and obstinately refused to accept the visits of her husband and children, whom she called "impostors." Another patient, afflicted with hysteria, believed herself to have been transformed into a dog; she barked and walked on all fours. Still another patient at the Salpêtrière referred to herself as "the person of myself."

Complete transformation of the personality may be *permanent*, constituting, according to the excellent expression of Ribot, a true alienation of the personality; or it may be *transitory*, so that the new *ego* disappears at a certain time to be replaced again by the former *ego*. In cases in which the normal personality and the pathological one replace each other mutually several times we have variation by alternation.[1]

Incomplete transformation of the personality exists in a great many cases in which the patients are led by their delusions to attribute to themselves imaginary talents, powers, or titles, without at the same time completely

[1] Ribot. *The diseases of personality.*

abolishing their real *ego*. One patient suffering from chronic delirium of old standing claimed that he was St. Peter, and explained that he had been incarnated in an earthly man for the purpose of bringing happiness to mankind. A general paretic claimed that he was Emperor of Asia, reigning in Pekin, being at the same time aware of the fact that he was living in Paris, and was a newspaper vender.

Garnier and Dupré have described under the name of *paroxysmal mental puerilism* [1] "a retrogression of the intellect to its primitive stages," a state in which the subject once more becomes psychically a child, the transformation being only a temporary one. In the observation which they report a woman of thirty-three years took pleasure in childish amusements, such as playing with dolls, etc., and expressed herself in such childish language that she created the impression "not of an adult woman of thirty-three years, but of a child of five years." This interesting syndrome is encountered in the most diverse affections. It may be met with in hysteria, in cerebral tumors, in abscess of the brain, etc.

(*c*) *Reduplication of the personality* consists in the development of a new personality of a parasitic nature alongside of the real personality of the patient.

This reduplication is the origin of the idea of possession so frequent in the chronic melancholic deliria and results in a psychic disaggregation the most important manifestations of which are autochthonous ideas

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[1] *Transformation de la personnalité. Puérilisme mental paroxystique.* Presse médicale, 1901, No. 101.

(psychic hallucinations) and motor hallucinations. As I have had occasion to indicate above, the patient, feeling that he is losing control of his own thoughts and movements, concludes that a strange personality has taken possession of him.

CHAPTER V.

THE PRACTICE OF PSYCHIATRY.

EXAMINATION OF PATIENTS.—GENERAL THERAPEUTICS OF THE PSYCHOSES.

§ 1. Examination of Patients.

The data for the diagnosis, prognosis, and treatment are obtained in psychiatry, as in all the other branches of medicine, from the *anamnesis* and from the *direct examination of the patient.*

The anamnesis.—An anamnesis as complete as possible is indispensable for an accurate diagnosis. It should be based upon information obtained from the patient's relatives, and from the patient himself when he is in a condition to give accurate answers concerning the family history and his personal history.

A knowledge of the *family history* enables us to determine the causes of inherited or simply congenital degeneration, to the influence of which the patient has been exposed.

A knowledge of the *personal history*, still more important, informs the physician: (1) as to whether the disease is congenital or acquired; (2) in the case of acquired psychoses, (*a*) as to the nature of the soil (presence or absence of congenital psychic anomalies); (*b*) as to the causes of the disease; (*c*) as to its mode of onset and its duration.

It is customary in many hospitals to obtain from the relatives or from the family physician replies to a definite series of questions on regular blanks. Notwithstanding the very considerable advantages of this method, it ought not to be used exclusively; the alienist should not neglect in addition to interrogate personally all those who are in a position to furnish further information.

Direct examination of the patient.[1]—Three classes of cases may be met with:

(1) The patient himself, realizing his condition, applies to the physician; the examination is then conducted by a routine method.

(2) The patient, not realizing his condition, but demented and indifferent, submits passively to the examination. The task of the physician is rendered somewhat more difficult on account of the lack of precision and veracity in the information furnished by the subject.

In both these cases it is justifiable to proceed with a methodical examination conducted according to a plan previously laid out.

(3) The patient does not realize his condition, but is lucid. Being convinced that he enjoys perfect mental soundness, he does not understand why the physician should pry into his personal affairs, and refuses to answer questions which to him seem useless or, worse still, inspired by ill-will; the physician's rôle is here very delicate.

He must endeavor to obtain the confidence of the

[1 The *physical examination* is, of course, of extreme importance. For the methods of physical examination the reader is referred to standard works on diagnosis, neurology, and practice of medicine.]

patient, and the best means of doing this is undoubtedly that recommended by Régis: he should introduce himself frankly as a physician called by another member of the family. In some rare cases he may be obliged to conceal the fact that he is a physician and to introduce himself as a fictitious person in some particular capacity which may suggest itself in the given case.

In such cases the examination is often limited to a simple conversation directed so as to furnish the greatest possible amount of information concerning the patient's mental state. An important rule which should always be remembered is never to dispute the patient's delusions. It may be useful in the diagnosis to find out how the patient takes the disputing of his delusions; but all such attempts require extreme prudence, if one wishes to avoid irritating the patient and thus hindering the examination.

Whichever procedure is adopted, methodical questioning or conversation, the data gathered by the physician should permit of establishing:

(1) The degree of intellectual development;

(2) The state of the consciousness and orientation;

(3) The degree of insight which the patient may have into his condition;

(4) Delusions, if any, and their degree of systematization;

(5) The changes of the affectivity and the character of the patient's tendencies.

Some commonly employed procedures often enable one to obtain these points of information very quickly. Such are questions concerning the patient's surroundings, his age, his occupation, his family.

The three questions, "How old are you?" "In what year were you born?" and "What year is this?" put to the patient successively inform us by the degree of accuracy of the replies obtained: (1) as to the patient's orientation of time; (2) as to the condition of his memory,—that of fixation as well as that of conservation and reproduction; (3) as to the condition of the patient's judgment, by the presence or absence of flagrant contradictions in the replies: the patient may state, for instance, that he is fifty years old, was born in 1882, and that the present year is 1902.

Tests of *reading* and *writing* are also very useful.

The first consists in requesting the patient to read aloud some paragraph in a book or in a newspaper and several minutes later having him give an account of what he has read; this account is more or less accurate and complete. This test may demonstrate any existing disorders of: (1) perception; (2) attention and associations of ideas; (3) the power of fixation; (4) the patient's speech (physical impediments).

The second test, that of writing, consists in asking the patient to write something, either of his own production or from dictation or copy. This test furnishes information not only concerning the degree of general intelligence but also concerning some motor functions (tremulous or irregular handwriting), and often concerning the patient's delusions.

Thus one patient, requested to write a letter to his family, began his letter with the following very significant words: "In the name of the Father, the Son,

and the Holy Ghost, We, the Emperor of Asia," etc.[1]

Simulation and dissimulation. — The physician, in considering the question of insanity, should not accept without verification the statements of the subject presented to him for examination, for he may be a *simulator* or a *dissimulator*.

It is often very difficult to discover *simulation*. Undoubtedly most individuals who practice it, being but little informed on insanity, do not represent the known types of psychoses: the attitudes, the gestures, the reactions, and the conversation present a constrained, affected aspect of voluntary exaggeration which at the very start may arouse the suspicions of the physician. Still the clinical types are as yet but poorly defined in psychiatry, and it would be extremely imprudent to declare the existence of simulation merely from an unusual combination and character of the symptoms. Affectation in action and in speech, extreme incoherence, apparently voluntary, are seen in catatonia; the agitation of certain hysterical patients, and even of some maniacs, often increases when the patients feel themselves being observed.

The principal elements upon which the diagnosis of simulation is to be based are as follows:

(*a*) The existence of a motive: legal prosecution, some sentence or punishment which the subject may seek to escape or military service which he may wish to evade;

[1 The above are but the general directions for a hasty procedure leading merely to the determination of the absence or presence of mental derangement. For the methods of obtaining a complete mental status, see Sommer's *Diagnostic der Geisteskrankheiten*.]

(*b*) The sudden appearance of the symptoms (agitation, delusions, confusion, stupor), without prodromata, which is very rare in the psychoses;

(*c*) The constant observation of the subject whose conduct is often in discord with his delusions or with his simulated disorder of affectivity; a pseudo-melancholiac, who declares himself the greatest criminal on earth, loudly demands to be put to death, and refuses food, will hide himself in a corner to devour with avidity a piece of bread stolen from another patient, and will sleep quietly when alone in his room believing himself to be unobserved. A similar contradiction is encountered in certain established dementias, but never in the beginning of psychoses.

However, the certainty of simulation, even when based upon the confession of the subject, does not necessarily indicate that the subject is a normal and fully responsible individual. The idea itself of simulating a mental affection can arise only in an individual who is psychically abnormal. Joffroy quotes a remark of Lasègue: "One must be morbid to be a simulator of insanity."

Dissimulation [1] is the opposite of simulation. Certain of the insane, almost always of the dangerous class, such as paranoiacs with ideas of vengeance or melancholiacs with ideas of suicide, make efforts to conceal their morbid tendencies by assuming an outward appearance of calmness or even of happiness. They pretend never to have shown, or at least to have recovered from, the mental disorders attributed to them;

[1] Pasquet. *Les aliénés dissimulateurs.* Thèse de Paris, 1898

some admit having been ill, but affirm that it is all over and that they think no more of "their former follies." These patients are sometimes spoken of as being *reticent.* Only the most intelligent and painstaking observation of all the details of the case will enable one to recognize dissimulation; the attitudes and gestures of the patient must be taken into account, his soliloquies or conversations with the "invisibles" to whom he abandons himself when he thinks he is alone, and finally his writings. The latter are of primary importance: many dissimulators who conceal their ideas in conversation do not hesitate to put them on paper in the form of memoranda or of letters to editors of periodicals or to government officials.

§ 2. General Therapeutic Indications: Sanitariums.—Commitment.—Treatment of Excitement, of Suicidal Tendencies, and of Refusal of Food.

There is no particular treatment suitable for all mental diseases any more than there is for all affections of the stomach or of the kidneys. Certain therapeutic indications, however, are of such importance and frequency that it would be of use to make a general study of them.

Some are relative to the surroundings in which the patients should be placed, others to certain particularly grave manifestations of mental diseases: excitement, suicidal ideas, and refusal of food.

Surroundings: sanitarium commitment.—It is necessary in most of the psychoses to procure for the patient absolute physical and intellectual repose and to relieve

him so far as possible from his preoccupations, delusional or rational.

These indications are difficult to carry out in the ordinary conditions of life. The obstacles are of a nature both material and moral. material, because only few families can afford the expense involved in the treatment of an insane patient at home; and moral, because the relatives, inexperienced in the treatment of mental diseases, are not likely to carry out properly all the orders of the physician, and may cause an aggravation of the patient's condition by yielding to all his caprices, being under the impression that he must not be contradicted, and by wearying him in their attempts to reason with him or to distract him.

The removal to a sanitarium is therefore in most cases inevitable.

All insane patients may be grouped in two classes: the inoffensive and the dangerous.

For the first class of cases the sanitarium does not present any particular features and the admission of the patient is effected with no more formality than that into a general hospital.

The patients of the second class must be *committed* or *isolated;* this must be accomplished under the supervision and responsibility of a public authority, and entails certain formalities.[1]

Of all these formalities only one is of interest to us here: the physician's certificate of lunacy.

[1 The original text here contains an extensive quotation of the French insanity law; for obvious reasons it has been obmitted in the translation.]

The certificate, intended to establish the legitimacy of the commitment, need not contain any detailed observations and does not necessarily involve a precise clinical diagnosis. It is of little importance here whether the patient does or does not present inequality of the pupils or abolition of the patellar reflexes. It is also unimportant whether he suffers from mania or from dementia præcox, as long as the symptoms which he presents render him a menace to himself, to others, or to the public peace.

The indications for commitment are chiefly to be based on the dangerous tendencies of the patient: a senile dement who is quiet and tractable can without any inconvenience be cared for at home or in an asylum for old men; another who is on the contrary irritable and violent should be committed without hesitation.

In a general way the following symptoms should be considered as indications for commitment: impulsive tendencies; suicidal ideas; ideas of persecution and hallucinations which bring about violent reactions; states of dementia associated with phenomena of excitement.

The character and intensity of the symptoms should, however, not be the only factors governing the action of the physician. He should also take into account their *probable duration*. If the mental disorder is not likely to persist for more than several days and has no tendency to recur frequently, commitment is not justifiable; such is the case in febrile deliria.

Transfer of the patient to the asylum.—Undoubtedly it is the physician's duty to induce the patient to go to a hospital. Unfortunately this is not always easy

or even possible when the question is one of commitment. If the patient is lucid, as in cases of chronic delirium or paranoia, one is often compelled, in order to avoid painful scenes, to resort to certain subterfuges, such as proposing to conduct him to some place where he desires to go, or inviting him to go out on an excursion. This question, at times delicate, cannot of course have a universal solution.

Medico-legal testimony.—The purpose of medico-legal testimony is to inform the public official, most frequently a judiciary authority, as to the mental state of the individual submitted to an examination by an expert, and particularly as to his *responsibility*. The word "responsibility" is used here not in a metaphysical sense, but in a practical one, and is to be defined as "the faculty of adapting (so far as possible) our mental life to the external world, and especially of adapting our mental life to that of other individuals."[1] According to this definition any individual should be declared irresponsible who presents psychic anomalies which prevent his "adapting himself to the external world and to life in society." Thus understood responsibility has an infinite number of degrees. In fact "between those who adapt themselves very well and those who cannot adapt themselves at all there are all those who can adapt themselves, but imperfectly, only to certain aspects of social life: persons having but a limited responsibility. Between these two ex-

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[1] Forel. *Ueber die Zurechnungsfähigkeit des normalen Menschen.* Munich, 1901.—Forel et Mahaim. *Crime et anomalies mentales constitutionelles*, 1902, Paris, F. Alcan.

tremes are all the imaginary transitions that exist between perfect health and disease" (Mahaim).

The medico-legal report comprises:

(1) A study of the subject's personality and of the modifications which it has undergone, if any;

(2) In criminal cases, a study of the offenses for which he is indicted, or upon which the parties concerned base their accusations against the subject or their demands to annul agreements or engagements that they may have made with him;

(3) Where possible, a precise diagnosis and prognosis;

(4) Finally, conclusions as to the degree of responsibility which may be attributed to the subject.

The information which should guide the expert in making out the report is derived from four principal sources:

(1) The direct examination and (2) prolonged observation of the subject. This, to be of real value, should be conducted in a hospital. Indeed a great many important peculiarities in the conduct and conversation of a subject submitted for an expert's examination remain unnoticed by persons inexperienced in insanity,—prison guards, for instance;

(3) The expert's inquiries from persons who are in a position to furnish information concerning the patient;

(4) A judiciary inquiry the data of which the physician is *a priori* obliged to accept as true in the absence of other evidence. The importance of the judiciary inquiry is extreme and in many cases furnishes the essential element of diagnosis. For instance, in the case of a crime committed by a paranoiac whose entire derangement consists in a single false idea which

does not always appear as an absurd idea on first consideration, only the judiciary inquiry can determine whether the allegations of the patient are true or not.

TREATMENT OF EXCITEMENT.

Perhaps the greatest progress in the therapeutics of mental diseases within the past few years has been made in our methods for the treatment of excitement.

Little by little means of restraint, always useless, often barbarous, have disappeared from asylums.

The honor of having introduced into France the "no restraint," or treatment of excitement without mechanical restraint, belongs to Magnan (1867).

The methods employed to-day in combating excitement may be grouped under four principal headings:

Rest in bed;

Hydrotherapy;

Isolation;

Medication.

Rest in bed.[1]—First used in melancholia (Guislain, Griesinger, Ball), rest in bed has been only since recently employed in the treatment of excitement. Magnan has introduced its use into France, after having shown the excellence of its effects and the relative facility of its employment.

Rest in bed presents the triple advantage of *saving the patient's energy, calming the excitement, and facilitating supervision.* It is indicated in most of the acute psychoses and in the periods of exacerbation of chronic

[1] Pochon. Thèse de Paris, 1899.—Wizel. *Ann. méd. psych.*, 1901.—Sérieux et Farnarier. *Ann. méd. psych.*, 1900.

psychoses. Rest in bed need not necessarily be constant to be efficacious, except in cases in which the gravity of the general condition requires it. It is well to allow patients to get up for two or three hours daily, using part of the time for outdoor walks the duration of which is to be determined by the special indications in each case.

Rest in bed produces the best effects when carried out collectively in small dormitories containing not more than ten beds. The example of patients who have already submitted to this mode of treatment exercises a salutary influence upon the newcomers and helps to induce them also to accept it. Under favorable conditions two or three days generally suffice for even a very excited maniac to become accustomed to staying in bed, and to become calmed to a certain extent. Though he may still persist in restless movements, he rarely leaves his bed, and when he does, he will return without difficulty upon the simple injunction of the nurse.

Hydrotherapy.—The *cold douche*, formerly much employed for calming excitement, acts chiefly by its asphyxiating effect. It is therefore not surprising that it has been entirely abolished.

Of the various forms of hydrotherapy two are most frequently used: the wet pack and the prolonged warm bath.

The *wet pack* is applied by means of a sheet soaked in cold water and closely wrapped around the entire body. Its duration varies from twenty minutes to several hours. If too prolonged it may cause attacks of syncope.

Prolonged warm baths are of great service when rest

in bed does not suffice to calm the patient. As generally used their duration does not surpass five or six hours daily. Some physicians, however, have obtained good results from the *permanent* warm bath: the patient remains in the bath for days or weeks.[1]

Most alienists have abandoned the old-fashioned covered bath-tubs intended to imprison the patient. If necessary he is simply kept in by several nurses until the calming effect of the bath becomes apparent.

Isolation.—Much combated of late, isolation presents, in fact, certain inconveniences, the gravest of which is leaving the patient by himself without constant supervision; it is absolutely contraindicated in patients with suicidal tendencies, and should not, as a rule, be employed until the other measures,—rest in bed and prolonged baths,—have been tried.

Nocturnal isolation consists in allowing the patient to sleep in a separate room which should, of course, be conveniently accessible to the attendant; it is of great utility in certain chronic disturbed patients. Many a dement who makes a great deal of noise during the night in the dormitory will repose quietly when he is alone.

Medication.—I shall limit myself to the mention of those drugs which are most frequently used in states of excitement, and to giving several formulæ.

Opium in all its forms is used for the insane: extract of opium in pills, aqueous solutions for subcutaneous injections, tincture of opium, etc.

The danger of forming the habit prevents the use of morphine in cases requiring prolonged treatment.

[1] Sérieux. *Le traitement des états d'agitation par le bain permanent.* Revue de Psychiatrie, Feb., 1902.

Chloral enjoys a merited reputation. It is administered in solution by the mouth in doses of from two to three grams for women and from three to four grams for men, or per rectum in doses of from four to five grams for women and from five to six grams for men.

Chloral hydrate	2–4 grams
Syrup of currant-berries	30 "
Water, enough to make	60 c.c.

To be administered in one or two doses by the mouth.

Chloral hydrate	5 grams
Yolk of egg	1
Milk	120 grams

To be administered per rectum, preceded by a simple enema.

Chloral may be combined with bromides:

Chloral hydrate	2 grams
Potassium bromide	4 "
Syrup of currant-berries	30 "
Water, enough to make	80 c.c.

To be administered in one or two doses by the mouth.

Chloral should be absolutely prohibited in cases of heart-disease.

Bromides may also be used alone in doses of from two to eight grams.

Sulphonal, *trional*, and *tetronal* bring about calm and prolonged sleep in cases of moderate excitement, given in doses of one, two, or three grams. They are usually administered in powders each containing one gram of any one of these hypnotics. One, two, or three such powders, according to the case, is to be administered

in the evening towards six o'clock, the action of these drugs being slow.

Chloralose, hypnal, and *somnal* may also be of service.

Chloralose .....20 to 60 centigrams.

Given in a powder.

Hypnal..... 2 grams
Chloroform-water..... 100 "
Syrup of peppermint..... 30 "

To be administered in two or three doses by the mouth. (Debove and Gourin.)

Somnal..... 2 grams
Syrup of currant-berries..... 40 "
Water..... 20 "

To be administered like the preceding. (Debove and Gourin.)

Paraldehyde may be given by the mouth, by the rectum, or hypodermically in doses of from 2 to 5 grams. It is an excellent hypnotic. Its only inconvenience is the disagreeable and persistent odor which it imparts to the breath.

Paraldehyde..... 2–5 grams
Rum..... 20 "
Lemon-juice..... 20 drops
Simple syrup..... 30 grams
Distilled water..... 40 "

To be administered in one or two doses by the mouth. (Debove and Gourin.)

Paraldehyde..... 4 grams
Yolk of egg..... 1
Milk.....120 grams

To be administered in one dose per rectum, preceded by a simple enema.

Paraldehyde	5 grams
Cherry laurel-water	5 "
Boiled distilled water	15 "

For hypodermic injection.

Hyoscine [*hydrobromate* or] *hydrochlorate* is a very active drug and must be used with great caution. It may be administered in solution, in pills, or by subcutaneous injection.

Hydrochlorate of hyoscine	0.005 gram
Syrup of peppermint	30 grams
Water enough to make	120 c.c.

A tablespoonful every ten minutes until five doses have been given.

Hyoscine hydrobromate	0.02 gram
Water	20 grams

For subcutaneous injection.

One ordinary hypodermic syringeful contains one milligram of the drug. Half a syringeful is given at first; it is very rare that the sedative effect is not produced by a whole syringeful.

SUICIDAL TENDENCIES.

Suicide among the insane is perhaps the greatest source of anxiety to the practical alienist.[1]

All the forms of mental alienation, excepting perhaps

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[1] Viallon. *Suicide et folie.* Ann. méd. psych., 1901.

mania, may give rise to ideas of suicide, but the first place from this standpoint belongs to psychoses of the depressed form (affective melancholia, depressed form of manic depressive insanity, certain forms of alcoholism, etc.).

Whatever the nature of the disease may be, ideas of suicide may result:

(*a*) From an imperative hallucination: a voice calls the patient to heaven, orders him to die in atonement for his sins, etc.;

(*b*) From a delusion: fear of death from starvation, of being afflicted with an incurable disease; some patients commit suicide to escape the imaginary persecutions of their enemies;

(*c*) From an unconquerable disgust for existence (tædium vitæ) or from an intolerable moral pain;

(*d*) From a sudden impulse (catatonia);

(*e*) From a suggestion: family suicide, epidemics of suicide;

(*f*) From a fixed idea, the origin of which is inexplicable. Such is the case reported by Ferrari: An officer declared on several occasions that it was ridiculous to live beyond sixty years. On the last day of his sixtieth year, after having passed a merry evening with his friends, he announced his intention of committing suicide. He went into his room and shot himself with a revolver.

The smallest objects may become in the hands of patients deadly weapons which they may turn against themselves. Magnan reported a case of a melancholiac who perforated his heart by means of a needle measuring scarcely 3 centimeters in length. Some insane in-

dividuals at times resort to procedures so horrible that their use cannot be explained otherwise than by the existence of marked anæsthesia; thus a patient of Baillarger's applied his forehead to a red-hot plate of iron.

In asylums, where the patients are not allowed to have in their possession any dangerous instruments, the means most frequently made use of is *hanging*, which fact is explained by the extreme simplicity of the procedure.

Together with suicide may be classed the *self-mutilations* which patients frequently commit.

Insane patients have been observed to cut off their own fingers, lacerate or even cut off their genital organs by means of pieces of glass, open their abdomens, etc.

The *treatment* of suicidal tendencies is reduced to strict and constant watching, which should be instituted as soon as the existence of such tendencies is suspected, and continued for a long time after their apparent disappearance. As we have already stated above, isolation is absolutely contraindicated. Keeping the patient in the observation ward and rest in bed during the acute periods are very useful measures.

REFUSAL OF FOOD (SITIOPHOBIA).

Refusal of food [1] may result from:

(*a*) Delusions with or without coexisting hallucina-

[1] Pfister. *Die Abstinenz der Geisteskranken und ihre Behandlung*, Freiburg, 1899.

tions: fear of being poisoned or of not being able to digest the food; hypochondriacal ideas;

(*b*) The desire to starve to death;

(*c*) An unconquerable disgust for food;

(*d*) Negativism (catatonia, general paresis).

Refusal of food may be *partial* or *complete*. Some patients will accept only certain kinds of food, often because these appear to them to be the safest or because "the voices" order them so. One patient lived solely on eggs, the shell seeming to him to be the only impenetrable barrier to the mysterious agencies used by his persecutors.

It may be also *absolute* or *relative*. Often with a little perseverance one may persuade a melancholiac to accept a sufficient quantity of nourishment in a convenient form. Some catatonics refuse what they have been offered and several minutes later devour their neighbor's meal without there being any delusion to explain their conduct.

When the refusal of food threatens to have a bad effect upon the health of the patient, as is shown by loss of weight determined by systematic weighings, one must resort to forced feeding or "tube-feeding."

Tube-feeding may be accomplished in two ways: by the *nose* and by the *mouth*.

Tube-feeding by the mouth is the less painful and less dangerous procedure for the patient as well as the most convenient one for the physician.

The necessary instruments are a *mouth-gag*, a *stomach-tube*, and a *glass* or *rubber funnel*.

The operation itself is performed in four stages:

(1) Opening the mouth;

(2) Introducing the tube into the stomach;

(3) Attaching the funnel to the tube and tests for ascertaining the proper penetration of the tube into the stomach;

(4) Introducing the liquid food.

The first stage presents several difficulties due to the resistance of the patient, which is at times very great. However, by using patience and taking advantage of the little interstices between the jaws. it is always possible to accomplish this.

The introduction of the tube is usually easy. The end entering the pharynx sets up reflexly the movements of deglutition, so that the instrument of itself enters the œsophagus. A gentle push suffices to make it enter the stomach.

Although the large size of the tube renders a false passage almost impossible, the purpose of the third stage is to ascertain that the tube is well in place and has not entered the trachea. Two procedures are used to make sure of this: auscultation at the opening of the funnel and introduction into the tube of several drops of pure water. If the noise produced by the gases of the stomach is heard, and if the water runs down freely, the tube is in place and is not obstructed. Otherwise the tube must be withdrawn and cleaned and the operation recommenced.

The liquid nourishment should always be introduced at a low pressure. Its composition may vary according to individual cases. Milk, eggs, beef-juice, peptones, or vegetable soups usually constitute the basis.

Tube-feeding through the *nasal* passages presents several inconveniences:

(1) It is painful;

(2) It causes quite often irritation and inflammation of the nasal mucosa;

(3) The small dimensions of the tube render its introduction into the larynx easy, and do not allow the use of any but perfectly liquid food.

This method of feeding should, therefore, not be resorted to except in special cases, such as those of buccal affections interfering with the introduction of the tube by the mouth.

Not infrequently after tube-feeding the patient rejects the contents of the stomach either spontaneously or by a voluntary effort. This may often be prevented by throwing a few drops of water at his face. In cases of obstinate vomiting the irritability of the stomach mucosa may be diminished by introducing with the liquid food several drops of a solution of cocaine.

It may be useful to precede the feeding by lavage of the stomach.

PART II.

SPECIAL PSYCHIATRY.

CLASSIFICATION.

Pathological anatomy is the only criterion that enables us to establish in the diseases of an organ categories corresponding to reality. The lesions of most of the psychoses being unknown, each school assumes the right to create a classification corresponding with its tendencies, which may be more or less ingenious, but is necessarily artificial.

Of all those offered to us by psychiatry it would be best to select the most practical, the most convenient, and the one which in a given case would enable us most easily to establish the prognosis and to institute the treatment. The classification of Kraepelin appears to me to present great advantages from this standpoint.

I shall therefore adopt it here with some modifications, which shall be indicated in the course of this work.

The following are the morbid entities described in this manual, enumerated in the order which I propose to follow.

I. Infectious psychoses:

Febrile delirium;
Infectious delirium;
Hydrophobia.

II. Psychoses of exhaustion:

Mental confusion; acute delirium.

III. Toxic psychoses:

(*a*) *Acute:*

Pathological drunkenness.

(*b*) *Chronic:*

Alcoholism;
Morphinomania;
Cocainomania.

IV. Psychoses of autointoxication:

(*a*) *Acute:* Uræmia;
(*b*) *Subacute:* The polyneuritic psychosis.
(*c*) *Chronic:* Myxœdema;
Dementia præcox; chronic delirium;
General paresis.

V. Psychoses dependent upon so-called organic cerebral affections:

Arteriosclerosis; cerebral tumors; cerebral syphilis; hemorrhages; softenings.

VI. Psychoses of involution:

Affective melancholia;
Senile dementia.

VII. Psychoses without a well-determined etiology, which are apparently based upon a morbid predisposition:

Manic depressive insanity;
Paranoia.

Constitutional psychopathic conditions:
Mental instability;
Sexual perversions and inversions;
Obsessions.

VIII. Psychoses based upon neuroses:
Epilepsy;
Hysteria.

IX. Arrests of mental development:
Idiocy and imbecility;
Moral insanity.

CHAPTER I.

DELIRIA OF INFECTIOUS ORIGIN.[1]

The mental disorders which appear in the course of infectious diseases are brought about by the combined action of several factors: elevation of temperature, congestion of the nervous centers, and poisoning of these centers by microbic toxines. The most important factor appears to be the poisoning of the nervous centers.

One cannot fail to notice the striking clinical resemblance existing between the toxic deliria, properly so called, and the infectious deliria; indeed the resemblance is so close that without the somatic symptoms peculiar to each condition it would be difficult or even impossible to make the differentiation. Notes on such cases almost always describe the same symptoms: clouding of consciousness, confusion, numerous illusions and hallucinations, motor agitation.

Moreover, the infection itself, independently of hyperpyrexia and probably of any meningeal lesion, may cause grave mental disorders (infectious delirium proper) which can only be explained by a toxic action.

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[1] Klippel et Lopez. *Du rêve et du délire qui lui fait suite dans les infections aiguës.* Rev. de Psychiatrie, April 1900.—Desvaux. *Délire dans les maladies aiguës.* Thèse de Paris, 1899.

After the description of febrile delirium I shall say a few words with regard to infectious delirium proper. I shall also give a brief description of the mental disorders of hydrophobia, which, though, like the preceding, they belong to the group of infectious psychoses, merit a special description on account of their constancy and their peculiar aspect.

Febrile delirium.—In febrile affections the psychic disorders are usually limited to a slight degree of cerebral torpor and of irritability of humor. Slight nocturnal agitation, a few illusions, and some delusions form the imperceptible transition to the graver cases in which the true delirium appears.

This consists essentially in a *more or less profound clouding of consciousness associated with vague delusions, multiple psychosensory disorders, and excitement which is at times very marked.*

The delirium is essentially variable and mobile, at times pleasant, at others painful; the psycho-sensory disturbances are of the combined form with a predominance of illusions and hallucinations of sight. The images and scenes follow each other as in a dream, of which they seem to be a continuation (dream delirium). The patient imagines he is in the country, in the theater, in a church; pompous processions march past him amidst the sounds of music and the perfume of flowers and censers; he converses with imaginary persons, defends himself against assassins, rejects a glass of milk offered him, thinking that it is poison. Often under the influence of his hallucinations he strikes at the air and attempts to get out into the street or to pass through the window, which he takes for the door.

However, as during a dream, the subject may by a sudden and energetic call be transported from the imaginary world into the real one. Such periods of lucidity are in general but transitory.

Often, chiefly in the beginning of all forms and through the entire course of the mild forms, the delirium disappears in the morning to reappear in the evening and to last during a portion of the night.

The *prognosis* depends less upon the intensity of the delirium than upon the physical symptoms which accompany it. As a rule all febrile affections complicated with intense delirium should be considered as grave.

In fatal cases the delirium gradually subsides and coma replaces the excitement.

Febrile delirium, like acute alcoholic intoxication, is an excellent criterion for judging the resistance of the brain: the greater the predisposition to mental disorders and the more marked the *degeneration* of the subject the more likely it is for delirium to occur under such circumstances. Like alcohol, the microbic poisons and the toxic products of the organism act most readily upon brains the equilibrium of which is least stable and therefore most easily disturbed.

The *treatment* is that of the infectious disease. Strict watching is indicated. Cold baths are often very efficacious in relieving the mental disorders.

Infectious delirium proper.—Kraepelin and Aschaffenburg have described under the name of *infectious delirium* mental disorders which supervene in the course of an infection without the fever being particularly intense or even before the fever appears (Initialdelirium).

Infectious delirium is met with chiefly in typhoid fever, in variola, and in typhus fever. The symptoms sometimes take the form of maniacal excitement, more often that of acute confusional insanity or of hallucinatory delirium.

The mental disorders of hydrophobia.—Almost always these appear as the first symptoms of the disease. Long before the onset of the hydrophobic symptoms proper, even when the patient is unconscious of the threatening danger, he becomes depressed, gloomy, seclusive, and has occasional attacks of anxiety. Sometimes, pressed by an irresistible impulse, he becomes extremely restless, walks or runs about for hours at a time, and finally returns home more tranquil, relieved for a time: it seems that the morbid irritation of the motor zones is calmed. Very prominent also are the inexplicable changes of the emotional state: the sudden outbreaks of affection or of joy, contrasting strikingly with the background of depression and indifference.

The sleep is interrupted by sudden starts and disturbed by nightmares.

The emotional disorders persist through the entire duration of the disease. But, except during the spasmodic seizures, consciousness remains intact up to the very last. In a few rare cases a continuous delirium is established, assuming various forms: mystic, persecutory, melancholy, etc.

During the *paroxysms* there is very severe anxiety, agitation reaching almost the intensity of furor, and psycho-sensory hyperæsthesia which in extreme cases gives rise to hallucinations: the patient sees flowers,

fantastic forms, hears the noise of firearms, the sounds of trumpets, etc.

The phenomena of excitement gradually become less marked and finally disappear with the onset of the paralytic stage.

The *diagnosis* bases itself upon the existence of psychosensory hyperæsthesia, and especially upon the characteristic spasms of hydrophobia (pharyngeal spasms).

The *treatment*, which is but palliative, consists in the administration of antispasmodics in large doses.

CHAPTER II.

PSYCHOSES OF EXHAUSTION.

PRIMARY MENTAL CONFUSION, ACUTE DELIRIUM.

WELL described by Georget and by Delasiauve under the name of "stupidity," primary mental confusion has only recently been brought into prominence again through the labors of Chaslin and of Séglas.[1]

The fundamental element of this morbid entity is the mental confusion which is *primary, profound, and constant.*

Essential symptoms.—After several days of ill-defined prodromata such as headache, anorexia, and change of disposition, the disease sets in, manifesting itself by psychical and physical symptoms.

A. Psychical symptoms.—These are the symptoms of intellectual confusion, more or less marked and more or less pure according to the gravity of the disease:

Clouding of consciousness;

Impairment of attention;

Sluggish and disordered associations of ideas;

Insufficiency of perception;

Aboulia, characterized by constant indecision and by slowness and uncertainty of the movements.

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[1] Chaslin. *La confusion mentale primitive.* — Séglas. *Leçons cliniques.*

The state of the automatic psychic functions varies according to the form of the disease: the mental automatism may be relatively unaffected (simple mental confusion), exaggerated (delirious mental confusion), or paralyzed like the higher mental functions (mental confusion of the stuporous form).

B. Physical symptoms.—The physical symptoms are constant and "are the expression of the *general prostration, exhaustion,* and *ill-nourishment*" (Séglas).

Loss of flesh is an early and a very marked symptom. It is caused by insufficient alimentation, digestive disorders, and especially by a defective assimilation of nutritive matter.

Fever sometimes exists, chiefly at the onset; in some cases, especially in the stuporous form, there may be *subnormal* temperature.

A small low tension *pulse,* feeble and at times irregular heart sounds, sluggishness of the *peripheral circulation,* cyanosis of the extremities, and œdema are among the manifestations of the general atony of the cardiovascular apparatus.

The appetite is abolished, the tongue coated; the process of digestion is accompanied by painful sensations; constipation is always present.

Frequently there is a slight albuminuria.

The sleep is diminished, often replaced by a dreamy state analogous to that of the infectious diseases.

Primary mental confusion may be met with in four principal forms, differing in their gravity and in the predominance of one or the other class of symptoms:

Simple mental confusion;

Delirious mental confusion;

Mental confusion of the stuporous form;

Hyperacute mental confusion (acute delirium).

Simple mental confusion.—The essential symptoms which have been enumerated above are encountered here in their purest form. The phenomena of psychic paralysis are of a moderate degree of intensity and the automatic mental functions are unaffected.

The patient is often more or less conscious of his condition; he observes that a change has taken place in him. "I am losing my head.... My mind is a blank...." He perceives his mental disability and complains of being unable to gather or direct his thoughts or to evoke reminiscences—even those that have left a very strong impression.

The mental disability indecision, and insufficiency of perception bring about a state of *constant bewilderment.* The patient is constantly repeating the same questions and the same exclamations: "Who is there?... Who has come?... Who are you?... Everything around me has changed." He does not recognize his surroundings, or if he does, it is with uncertainty. He is not certain about the identity of those about him; his bed appears queer to him, his own body seems to him to be changed, scarcely recognizable. In more advanced degrees we find complete disorientation, which is a constant symptom, at least in cases of a certain gravity.

The reactions are slow, undecided; the movements awkward and clumsy.

The mental automatism remaining intact, those mental operations which require no effort and no intervention of the will can still be properly performed. Thus one may obtain from the patient a certain number of

relevant and accurate replies concerning his age, occupation, residence, etc. But these replies are always given mechanically; they are brief and abrupt, and can be elicited only by putting the questions energetically and concisely. This simple and, so to speak, schematic form of primary mental confusion is quite rare.

Delirious form.—This form, much more frequent than the preceding one, owes its peculiar aspect to a more or less marked exaggeration of the activity of the mental automatism, which gives rise to: (*a*) flight of ideas and incoherence; (*b*) delusions and psycho-sensory disorders; (*c*) more or less excitement.

The *delusions* present no systematization, as for this at least a relative lucidity is necessary. They assume different forms, which often interchange in the same subject; ideas of grandeur, transformation of the personality: melancholy ideas, ideas of persecution. Painful delusions are the most common. Sometimes the ideas are absurd, like those of senile dements or of general paretics.

The *psycho-sensory disorders* consist sometimes in agreeable but more often in painful illusions and hallucinations of all the senses, though most usually of vision and of hearing. They may combine so as to create an imaginary world which is essentially mobile and changeable, or, on the contrary, they may coexist without any apparent correlation.

Occasionally the incessant illusions and hallucinations impart to the patient a peculiar expression. Most cases described under the name of hallucinatory delirium should properly be included in this form of mental confusion.

The *emotional tone* is variable, governed to some extent by the delusions. However, one often finds, in spite of very active delirium, a striking indifference, so that a certain discord exists between the delusions and the emotions.

The *agitation* is not always due to the delusions and psycho-sensory disturbances. As in dementia præcox, so also in this condition the patient may give vent to cries and motor discharges that are purely automatic and without any apparent purpose.

Mental confusion of the stuporous form.—Here the psychic paralysis involves not only the higher mental faculties, but also the automatic psychic functions.

The limbs are motionless, the eyes dull, and the face expressionless; the mouth may be half open and the saliva dribbling away uncontrolled. The patient fails to react even to the strongest stimulation, or he may react but very feebly.

Cataleptic attitudes with dilated pupils are quite often seen.

Hyperacute form (acute delirium).—This form is characterized by the intensity of the delirium and of the agitation on the one hand, and by the gravity of the general symptoms on the other hand.

The patient, attacked by numerous hallucinations, either painful or agreeable and accompanied by erotic tendencies, becomes completely disoriented and wildly excited: he shouts, sings, jumps out of bed, strikes the walls, and attacks those about him. The eyes are injected, the respiration panting, the skin covered with perspiration, the temperature elevated, and the pulse is small and often rapid and irregular. These signs point

to the gravity of the condition. In fatal cases the patient rapidly passes into coma and dies in a few days. In favorable cases the agitation gradually disappears, the patient regains his sleep, and recovery finally takes place; this favorable termination is rare.

Duration, course, and prognosis of primary mental confusion.—The duration of the attack varies from several days to a few months. The curve representing its intensity is rapidly ascendant, then it remains stationary for some time without oscillations, and finally descends gradually. The period of descent often presents irregularities on account of recrudescences of the disease, which are usually mild.

Such is the course of favorable cases, which fortunately are the most frequent (excluding acute delirium). *Recovery* is complete. But the patient's recollection of the events which have taken place during the illness is vague or even absent. The period of *convalescence* is very protracted.

Suicide is rare even in the depressed forms; the aboulia is the patient's safeguard.

In unfavorable cases death occurs from collapse in the hyperacute form, and from cachexia or from some complication (pneumonia, subacute tuberculosis, influenza, infections following traumatisms) in the less rapid cases.

Diagnosis.—The principal elements of diagnosis are: the appearance on mental confusion at the onset of the disease; the possibility of obtaining correct replies to simple and energetically put questions; the state of physical exhaustion, and the existence of the special etiological factors, which we shall mention further on.

Many other psychoses may resemble primary mental confusion because they may be complicated by secondary mental confusion. The points of differential diagnosis will be indicated in the respective chapters devoted to the consideration of these psychoses.

Pathological anatomy. — The lesions of primary mental confusion are of two kinds: inflammatory and degenerative. The former, which are most prominent in the severe cases, consist in congestion and diapedesis in the nervous centers. The latter are more constant, and consist in degeneration of the nerve-cells, which is demonstrable by Nissl's method.[1]

Etiology.—All factors capable of bringing about a rapid and profound exhaustion of the organism occur in the etiology of primary mental confusion: physical and mental stress, painful and prolonged emotions, but especially *grave somatic affections*. The puerperal state, through the exhaustion which it entails as well as through the nutritive disorders and infections by which it is sometimes complicated; the infectious diseases (typhoid fever, the eruptive fevers, influenza, cholera); profuse hemorrhages; inanition, etc., are among the causes frequently found in the history of the disease.

How is the action of these factors to be explained? Two hypotheses are possible.

According to the one, that of Binswanger, the general

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[1] Ballet et Faure. *Contribution à l'anatomie pathologique de la psychose polynévritique et certaines formes de confusion mentale primitive.* Presse méd., Nov. 30, 1898.—Maurice Faure. *Sur les lésions cellulaires corticales observées dans six cas de troubles mentaux toxi-infectieux.* Rev. neurol., Dec. 1899.

exhaustion of the organism brings about a *deficient cerebral nutrition* the clinical expression of which is primary mental confusion.

According to the other, advanced by Kraepelin, the causes enumerated above bring about disturbances in the nutritive changes and determine the production of toxic substances which, acting upon the cerebral cells, give rise to an *intoxication psychosis:* primary mental confusion.

Perhaps both causes are at work simultaneously. In either case exhaustion constitutes the essential cause of the affection and the term "*Exhaustion Psychosis*" is therefore perfectly applicable to it.

Treatment.—During the entire acute period of the disease *rest in bed* should be rigorously enforced.

Proper *alimentation* is of great importance. A reconstructive diet better than all medication sustains the patient's strength and even calms the agitation. Milk, eggs, chopped meat, and meat-juice should form the basis of the diet.

In cases of sitiophobia one must resort without hesitation to artificial feeding; these patients cannot with impunity be allowed to fast.

Injections of artificial serum are of great service and of easy application. The necessary apparatus consists chiefly of a glass funnel, a soft-rubber tube, and a slender trochar.

Ordinarily 300–500 grams of Hayem's serum may be injected every day or every second day.

The most important results of this treatment are the rising of the blood pressure and the diuresis.[1]

[1] Cullerre. *De la transfusion séreuse sous-cutanée dans les*

Moderate physical exercise, life in the open air, reading, and light and brief mental work accelerate the course of convalescence.[1]

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psychoses aiguës avec auto-intoxication. Prog. méd., Sept. 30, 1899. —Jacquin. *Du sérum artificiel en Psychiatrie.* Ann. méd. psych., May–June, 1900.

[1] We have intentionally omitted the mental disorders of chronic exhaustion. They form a part of the symptomatology of neurasthenia, for a description of which the reader is referred to works on neurology.

CHAPTER III.

PATHOLOGICAL DRUNKENNESS.

(ACUTE ALCOHOLIC INTOXICATION).

THE term *drunkenness* is here used to designate the nervous and mental symptoms by which acute alcoholic intoxication manifests itself.

The *predisposition* to the state of drunkenness, quite variable in different subjects, is a part of the general tendency of the individual toward nervous and mental disorders. "It may be truly said that alcohol is the touchstone of the equilibrium of the cerebral functions."[1]

Drunkenness is somewhat schematically divided into two stages: (1) excitement, and (2) paralysis. In reality paralysis is present from the begininng, but in the first stage it is limited to the highest psychic functions and is masked by the intensity of the automatic phenomena, so that it does not become evident until the second stage, when *all* the nervous and mental functions become involved in the paralysis.

First Stage: Excitement.—*Psychic inhibition,* the first manifestation of the paralysis, is seen in the slow association of ideas, the distraction, and the insufficiency of perception. The automatism is apparent from the disconnected conversation, which may show

[1] Féré *La Famille névropathique.* Paris. F. Alcan.

a true flight of ideas, the abnormal pressure of activity, the more or less marked morbid euphoria and irritability, the impulsive character of the reactions, and the extremely voluble speech. The moral sense and the regard for common conventionalities gradually disappear, and the patient may commit ridiculous, repugnant, offensive, or even criminal acts.

Second Stage: Paralysis.—Paralysis, confined in the preceding stage to the sphere of the higher psychic functions, now attacks the automatic functions. The movements are awkward and clumsy, the speech indistinct, and the gait unsteady. Gradually the patient falls into a profound, sometimes comatose, sleep,—the final stage of the attack,—from which he awakes lucid but with a confused recollection of what has passed and with a pronounced sensation of mental and physical fatigue.

Such is, rapidly sketched, the aspect of common drunkenness. From the accentuation or obliteration of certain features result the diverse abnormal or pathological forms.

Comatose drunkenness.—The phenomena of excitement are either absent or very transient. From the beginning the paralysis affects the entire brain. The patient sinks and remains inert and insensible for several hours. His face is congested. Gradually the comatose state is replaced by sleep, from which the patient awakes without any recollection whatever of the occurrences immediately preceding his intoxication. Sometimes the pulse becomes small, the heart weak, the breathing labored, and in some cases, which are fortunately rare, the patient dies in collapse.

Maniacal drunkenness.—Here the paralysis occupies a secondary position and the excitement dominates the scene. The phenomena of agitation generally develop very rapidly. All of a sudden the drunkard, while yet at the saloon-keeper's bar, is seized with an outbreak of furious madness without any apparent cause or provocation; he breaks objects and furniture, becomes noisy, and threatens and attacks those about him. The extreme clouding of the intellect shows that, in spite of appearances, "psychic activity takes but a very small part in the production of the outbreak," and that "subjugated by this automatic development of psycho-motor activity it disappears entirely." [1] Almost always numerous psycho-sensory disorders (hallucinations and illusions) are associated with the clouding of the intellect and the excitement.

The attack terminates in profound sleep. This, as in the preceding form, is followed by an almost complete amnesia.

Convulsive drunkenness.—The maniacal form of drunkenness resembles closely the delirious attacks of epilepsy. The relation between epilepsy and acute alcoholic intoxication is rendered still more apparent by the fact that drunkenness may clinically assume the aspect of an epileptic seizure. This is explained by the convulsive properties of alcohol, which have been demonstrated experimentally. Attacks precisely like those of essential epilepsy may supervene in the course of common drunkenness. In all cases they immediately follow the alcoholic excesses, differing in

[1] Garnier. *La folie à Paris.*

this respect from those epileptiform seizures which supervene in the course of chronic alcoholism.

Delusional drunkenness.—This curious but rare form has been well studied by Garnier. The delusions are extremely variable: ideas of persecution, ambitious ideas, depressive ideas with suicidal tendencies, etc. Delusional drunkenness is encountered only in profoundly degenerated individuals.

Treatment.—This of course varies with the different forms. Maniacal or delusional drunkenness requires strict watching and immediate isolation; the comatose form requires the use of external and internal stimulation (friction, ammonium, ether, caffein).

CHAPTER IV.

CHRONIC ALCOHOLISM.

Chronic alcoholism manifests itself: (1) in permanent symptoms (the chronic stigmata of alcoholism), and (2) in episodic accidents.

I. Permanent Symptoms.

The permanent symptoms are psychical and physical.

A. PSYCHICAL SYMPTOMS.

There is an enfeeblement of all the psychic functions.

Intellectual sphere.—*Intellectual activity* and the *capacity for work* are diminished. The patient becomes dull, negligent, and clumsy.

The disorders of memory consist in a definite *retrograde amnesia* by destruction of impressions, associated with a more or less marked *anterograde amnesia*. The former follows the general law of amnesia. Its course is slowly progressive; but it is rare for it to reach as complete a development as it does in general paresis. The anterograde amnesia renders it difficult or even impossible for the patient to acquire new impressions; thus *the stock of ideas* becomes more and more impoverished.

The *judgment* is constantly affected: the patient realizes but imperfectly his condition and the importance and significance of his actions.

Emotional sphere.—As in most affections with a basis of intellectual enfeeblement, we find in chronic alcoholism *indifference* associated with *morbid irritability.*

The chronic alcoholic is not at all concerned with his ruined business, the misery of his family, or the compromise of his honor. Only the desire for alcohol can still arouse him from his mental torpor. The atrophy of the moral sense, which in these cases goes hand in hand with the general indifference, is such that in order to procure his favorite drinks the patient does not hesitate to make use of the most unscrupulous means and to associate with the vilest characters. If he still works, he spends his entire salary for drink. If he does not work, as is the rule in such cases, he accumulates debts in the lowest of drinking-dens, extorts from his relatives what little money they may have earned by hard labor, and he may even resort to stealing.

The *irritability* and the *impulsive tendencies* give rise to violent, terrible outbursts of anger, and often to assaults and attempts at murder.

Delusions may appear at times, almost always those of persecution or of morbid jealousy. When they become more developed and acquire a certain fixedness they constitute the alcoholic systematized delirium which we shall study later on.

Still the patient's obscure consciousness presents at times a temporary lucidity. Strong remonstrances of friends or grave disorders of the general health

may give birth to repentance. The unhappy subject regrets his excesses, declares himself a great sinner, swears by all that is holy that he will not take another drop of wine or liquor, and announces his intention to join a temperance association. These good resolutions are carried out for several days, weeks, or even months; but almost always the patient falls again: his feeble will gives way and he can struggle no longer. He is in a vicious circle: he drinks because his will is weak, and his will is weak because he drinks.

When they attain a certain degree of intensity, the mental disorders which I have sketched constitute *alcoholic dementia.*

Alcoholic dementia is slowly *progressive.* It takes years to become fully established. Moreover,—and this is a highly important feature,—it ceases to progress with the cessation of the alcoholic excesses.

B. PHYSICAL SYMPTOMS.

The *sleep* is diminished, restless, disturbed by unpleasant dreams. The patient is apt to dream that he is at his occupation (occupation-dreams); the work is pressing, but in spite of his diligence he is always behind and the results are unsatisfactory. At other times veritable dramas are enacted: assassins pursue him, rats run at him, snakes and monstrous spiders creep over him (zoopsia). These dreams present all the characteristics of delirium tremens, which has been aptly called a prolonged dream. Sometimes the patient wakes up in the midst of his nightmare with his head heavy, the body covered with perspiration, still doubting the inanity of his terrors.

Attacks of vertigo and flashes of light, which often precede and usher in apoplectiform attacks, occur as the result of the disordered condition of the cerebral circulation.

The motor disturbances consist in muscular weakness, chiefly marked in the lower extremities, a tendency to lassitude, and a constant *tremor* affecting especially the tongue and the hands; the digital tremor is rendered very apparent when the patient holds out his hand and slightly spreads out his fingers: it is a fine, horizontal tremor, not very rapid.

The *tendon reflexes* are sometimes exaggerated, but much more frequently diminished or abolished; the *cutaneous reflexes* are usually exaggerated (plantar reflex), especially in intoxications by the essences (absinthe); sometimes they are abolished; the *pupils* are paretic and sometimes slightly myotic. Occasionally there is a slight degree of strabismus or of ptosis. The *vision* is frequently disordered, due to retrobulbar neuritis; there is diminution of the acuteness and there may be a "central scotoma having the shape of an ellipse the long axis of which is horizontal" (Babinski).

Cutaneous sensibility is reduced in the large majority of cases; the hypoæsthesia is often unilateral; in such cases it is associated with other hysteroid manifestations: hysterogenic zones, globus hystericus, absence of the pharyngeal reflex.

Among the disorders of *deep sensibility* are to be noted numbness, tingling, hyperæsthesias of portions of muscles which are painful on pressure or are cramped; dull pains with lancinating paroxyms resembling the lightning pains of tabes.

The motor and sensory disturbances, whatever their distribution may be, are always due to *peripheral polyneuritis* which is a constant manifestation of chronic alcoholism.

The *gastro-intestinal disorders* are manifested by anorexia, pyrosis, coated tongue in the morning, slow and painful digestion, and constipation.

The *liver* is often enlarged, and so is also the spleen. The true alcoholic cirrhosis is sometimes met with, but assumes a special aspect, the principal peculiarity of which is the absence of ascites.

Diagnosis.—Chronic alcoholism is to be differentiated chiefly from those diseases in which there is intellectual enfeeblement. The question of differential diagnosis will be considered in connection with each of these: general paresis, senile dementia, and dementia præcox.

Prognosis.—This is always grave. The symptoms of intellectual enfeeblement once established are not likely to become abated. The timely suppression of alcohol prevents their appearance or, if they are already present, arrests their progressive course. Unfortunately this is very difficult to accomplish.

Pathological anatomy.—The arterial system is the seat of atheromatous degeneration the intensity and extent of which are variable; it affects especially the arteries of the cerebrum. Atheromatous changes in the arteries at the base are frequent, though not constant. The arterioles and capillaries always present a state of degeneration characterized by the presence of granular masses containing nuclei, which indicate their cellular origin.

The nerve-cells undergo "a certain degree of granulo-

pigmentary and fatty degeneration." [1] The nerve-fibers, especially the tangential and commissural fibers, are partially atrophied.

The extent of the lesions in the nervous elements is proportionate to that of the intellectual enfeeblement. Therefore it is especially marked in cases of advanced dementia.

The organs of the vegetative functions present the usual lesions of alcoholism: myocarditis, interstitial nephritis, alcoholic gastritis, fatty degeneration of the liver. The hepatic lesions have become of special interest since Klippel has shown that they are the immediate cause of certain deliria occurring in alcoholics.

Etiology. — How does one become an alcoholic? This question resolves itself into two distinct inquiries, as follows:

1. Why does a given individual drink alcohol in injurious doses?

2. Why are certain nervous systems more susceptible than others to the poisonous action of alcohol?

It would require a volume to reply fully to the first question; indeed, it would mean a solution of the gigantic problem of alcoholism in its social relations. According to Kraepelin, heredity seems to play a certain rôle. The tendency to alcoholic excesses is transmitted to descendants. Féré also states that "to become an alcoholic one must be alcoholizable; the mere indulgence in fermented beverages is not in itself sufficient." This factor is of some importance, though slight when compared to that of the *social factors*.

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[1] Klippel. *Du délire alcoolique.* Mercredi médical, Oct. 1893.

Among the latter the most powerful is undoubtedly the ignorance of the people as to the true action of alcohol, as well as the false, disastrous notion prevailing among all classes of society that alcohol gives force and is therefore indispensable to the workingman for the performance of hard labor. Though it is to-day a well-established fact in the medical and scientific world that alcohol produces but an illusion of force, and that the sense of increased energy which it gives is but a morbid subjective phenomenon, this idea is still looked upon by the public as an innovation of doubtful certainty, "an invention of the doctors."

To ignorance is joined the element of suggestion. There can be no doubt that many individuals begin to drink by chance or by example. For a laborer it is almost impossible in his social intercourse to escape alcoholism, even though he may be aware of its dangers. His comrades drag him into the saloons, which constitute perpetual temptations on his way. Refusal to accept their invitations exposes him to their ridicule and to their ill-treatment, and condemns him to the isolation of a social outcast; here, as everywhere else, "to do as others do" is the great principle that governs the individual and obliges him to conduct himself against his own interest and even against his own inclinations.

Among the social factors there are a great many special factors one of which deserves special mention, namely, grief. Some alcoholics abandon themselves to drink on account of financial ruin, others because of domestic unhappiness, etc. However, it is to be remembered that quite often patients claim their misfortunes to have been the cause of their intem-

perance, while in reality they are the effect. The drunkard pretends that he drinks to find relief from his domestic griefs, while in fact his intemperance has caused them.

We now have to answer the second question: Why does alcohol exert a rapid and intense action upon certain nervous systems, while others resist successfully much greater excesses?—It is here that the individual predisposition comes into play.

Like the symptoms of acute alcoholism, those of chronic alcoholism appear chiefly in *predisposed* individuals; and the greater the predisposition the more rapidly do these symptoms develop. We see daily in general hospitals patients presenting atheroma of the arterial system, alcoholic cirrhosis, etc., and showing but slight if any nervous or mental disorders; while in insane asylums patients are admitted whose alcoholic excesses have been relatively slight and whose nervous systems have nevertheless already suffered irreparable damage. The quality of the soil is therefore of primary importance.

The pathogenic action of alcohol is also favored by all the factors which diminish the resistance of the organism, such as stress, grief, want of sleep, and acute or chronic infectious diseases (tuberculosis). Thus we often encounter, associated in the same subject, the abuse of alcohol, predisposition, and debilitating influences.

It would be useful to know which among the alcoholic beverages produce so great a toxic action as to be particularly responsible for the production of alcoholism. Clinical evidence seems to show that the principal

factor in alcoholism is the *quantity* and not the *quality* of the beverage ingested. The experiments of Joffroy and Serveaux have shown clearly that alcoholic intoxication is due to *ethyl alcohol* itself, and not to the impurities often associated with it. Therefore all fermented beverages may cause alcoholism: liquors, alcoholic tonics, wines, beers, ciders, the alcohol of wines as well as that of substances used in the industries. However, "a given quantity of alcohol is the more toxic the more concentrated it is; for this reason the stronger alcoholic beverages play a prominent rôle in the production af alcoholism." [1]

The essences, particularly the essence of absinthe, have been claimed to be especially prone to produce alcoholic epilepsy. This opinion, based chiefly upon experiments, has not been altogether confirmed clinically.

Treatment.—The most important indication in the treatment is complete abstinence from alcohol in any form. This in well-established cases of chronic alcoholism can be carried out only in an insane-asylum or, still better, in a special institution for inebriates.[2]

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[1] Antheaume. *De la toxicité des alcools.* Thèse de Paris, F. Alcan 1897. This work contains the results of the experiments of Joffroy and Serveaux.

[2] Sérieux. *Les établissements pour le traitement des buveurs en Angleterre et aux États-Unis. Projets de création d'asiles d'alcooliques en Autriche et en France.* Bullet. de la soc. de méd. ment. de Belg., 1895.—By the same author. *L'assistance des alcooliques en Suisse et en Allemagne.* Ibid. Also *L'Asile d'alcooliques de département de la Seine.* Ann. méd. psych., 1895, Nov.–Dec

II. Episodic Accidents.

The episodic accidents of chronic alcoholism may be acute or subacute, and are of four kinds: delirium tremens, alcoholic systematized delirium, the polyneuritic psychosis, and alcoholic epilepsy.

The polyneuritic psychosis is to be studied later on; the symptoms of this disease are the same whether it results from an infection, from an autointoxication, or from the abuse of alcohol.

Alcoholic epilepsy presents the same clinical features as essential epilepsy. The convulsions often follow alcoholic excesses, from which they are separated by an interval of twenty-four hours and sometimes longer. They may also be associated with acute intoxication, so that they are dependent at once upon alcoholic epilepsy proper and upon the acute intoxication. The prognosis is variable. Though the convulsions usually disappear with the suppression of alcohol, still in many cases they persist and the subject behaves like an ordinary epileptic. Alcoholic intoxication thus resembles in its after effects certain infectious diseases,[1] notably typhoid fever, which are apt to leave epilepsy as a sequel.

Analogous to the states of obscuration and the absences of epilepsy are the states of transient subconsciousness which are occasionally met with in alcoholics, and in the course of which the patients may commit criminal acts.[2]

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[1] Dide. *Valeur de la fièvre typhoïde dans l'étiologie de l'épilepsie.* Revue de médecine, Feb. 1899.

[2] Moeli. *Ueber die vorübergehenden Zustände abnormen Bewusstseins in Folge von Alkoholvergiftung und deren forensische Bedeutung.* Allgem. Zeitsch. für Psychiat., Nos. 2 and 3, 1900.

Of delirium tremens and of alcoholic systematized delirium we shall make a more detailed study.

A. DELIRIUM TREMENS.

The *prodromata* consist in an accentuation of the symptoms of alcoholism. The *sleep* is more than ever disturbed by nightmares, preceded by painful hypnagogic hallucinations, and reduced in the last days before the attack to a vague somnolence. Violent headaches and a sort of inexplicable uneasiness usher in a grave affection. Frequently the patient, divining the cause of the threatening storm, suppresses the alcohol; in vain, however, for the attack almost always breaks out in spite of the tardy abstinence.

Psychic symptoms.—These were admirably analyzed years ago by Laségue and more recently by Wernicke. Three chief symptoms dominate the scene: disorder of consciousness, hallucinatory delirium, and motor agitation.

The *disorder of consciousness* involves exclusively the notion of the external world, i.e., the allopsychic orientation, leaving intact the notion of the personality, i.e., the autopsychic orientation (Wernicke).

The *illusions* and *hallucinations* are constant and at times incessant. They present two general characteristics: (1) they are *painful;* (2) they are *combined* in such a manner as to form complete scenes and create around the patient a whole imaginary and often fantastic world. They affect all the senses, but especially the sense of sight.

The visions of delirium tremens are always mobile

and animated. They form an uninterrupted succession of strange, painful, or terrifying scenes.

Two principal forms of the delirium may be distinguished: (*a*) occupation delirium, and (*b*) persecutory delirium.

(*a*) *Occupation delirium.*—The patient thinks that he is amongst familiar surroundings and imagines himself at his usual occupation. The hallucinations possess remarkable distinctness and intensity: the cab driver leads his horses, urges them on, whips them, and runs over pedestrians who do not get out of his way quickly; the café waiter waits upon his clients, receives the money, and shows them to vacant seats.

(*b*) *Persecutory delirium.*—The psycho-sensory disorders assume a terrifying character. Grimacing and horrible forms are seen in the folds of the curtains, upon the window-panes, or upon the walls. Assassins come out of every corner; the patient hears clearly their threats and abuses and describes their costumes and their weapons. He sees frightful and fantastic animals; rats, snakes, gigantic tigers fill the room, constantly changing their shapes and throwing themselves upon the wretched subject, who repels them with desperate efforts. An odor of poison proceeds from all sides; the food has a putrid taste.

The *motor activity* is at times very violent. The patient walks to and fro in the dormitory or in his room, seeks his clothes, strikes the walls to open a passageway for his escape, emits cries of terror; or he whistles and sings, assuming in the intervals a conversational tone, as he imagines himself surrounded by his acquaintances. The movements, though sudden and

awkward, always have a psychic origin (Wernicke); it is true that they are determined by imaginary representations and sensations, but they invariably present the character of *purposeful acts*. The patient who believes himself to be in his workshop goes through the regular movements necessary for the performance of his habitual work; another, the victim of terrifying hallucinations, executes the movements of flight or of defense.

On viewing broadly all the preceding symptoms we observe that the hallucinations of delirium tremens are like a vivid *mobile dream*. Just as a sleeper can be awakened, so can the patient be momentarily roused from his delirium by a sudden interpellation. One then obtains correct responses, so that the patient may create the impression of a normal individual. But as soon as he is left alone he relapses into his delirium and agitation.

Physical symptoms.—The *tremor* of chronic alcoholism becomes exaggerated so that there is a shaking of the entire body.

The *speech* presents a characteristic tremulousness.

At times a slight degree of syllabic stuttering, paraphasia, facial paresis, or even hemiparesis appear, showing the *participation of the projection centers* in the morbid process, and thus establishing a point of contact between delirium tremens and general paresis,—the psychic disease in which the projection centers are most profoundly affected.[1]

The *tendon and cutaneous reflexes* are usually exaggerated.

A certain degree of *hyperæsthesia* is the rule. The

[1] Bonhöffer. *Der Geisteszustand der Alkoholdeliranten*, 1897.

morbid irritability of the psycho-sensory centers explains the facility with which it is possible, by a simple suggestion or by slight mechanical stimulation, to bring forth a hallucination, even after the spontaneous psycho-sensory disorders have disappeared (induced hallucination's of Liepmann).[1]

We encounter also paræsthesias and even anæsthesias.

Fever is almost a constant symptom; its presence furnishes an excellent element for prognosis even regardless of all complications. In favorable cases the temperature does not rise beyond 39° C., reaching its maximum towards the end of the second day. Defervescence takes place either rapidly or by lysis. In grave cases the temperature rises above 39° or even 40° C.

There is also to be noted a *dyspeptic condition* of the digestive tract which is often very marked; usually a slight, sometimes a severe *albuminuria*, a rapid, full, and bounding *pulse* which, in grave forms, becomes small and easily compressible. Under these unfavorable circumstances the general nutrition suffers and there is loss of flesh which becomes very considerable in a few days.

Complications.—Among those involving the nervous system the most frequent are epileptiform attacks which often precede by thirty-six or forty-eight hours the onset of delirium tremens. The most formidable as well as the most common complication is pneumonia,

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[1] *Arch. f. Psychiatrie*, XXVI.

which affects chiefly the apex of one or the other lung and assumes from the beginning a grave aspect.

Prognosis.—Recovery is the rule. It takes place within four or five days after a deep and prolonged sleep. The sleep may come on suddenly or it may be preceded by a period of calmness.

The duration of delirium tremens is sometimes *abnormally brief* (several hours), and at other times *abnormally long* (a few weeks or even months).

The convalescence is marked at the beginning by a certain amount of confusion which persists for some time and which may or may not be associated with some delusions.

Death may occur from exhaustion, from an epileptiform attack, or from some complication (pneumonia).

Diagnosis.—Attacks very similar to delirium tremens are seen outside of alcoholism, notably in senile dementia, in general paresis, and in meningitis at the cerebral convexity. In the latter affection the diagnosis is based upon the existence of specially marked and numerous focal symptoms such as Jacksonian epilepsy, strabismus, etc., upon the condition of the optic disc, and upon the course of the disease.

The elements of differentiation from general paresis and from senile dementia will be studied in connection with each of these affections.

Pathological anatomy.—To the lesions of chronic alcoholism already considered there are added *exudative hyperæmia* and *inflammatory diapedesis*, which are the expression of an acute process analogous to that observed in infections.

The *nerve-cells* lose their normal shape and structure,

their angles become blunted, and their chromatophylic granulations are broken up or disappear entirely. The nerve fibers degenerate.

These lesions are present throughout the entire cortex, including the centers of projection. It is not rare to find also a certain degree of degeneration in the pyramidal bundles and in the posterior columns; thus we find in the pathological anatomy a confirmation of the relationship which has been clinically shown to exist between delirium tremens and general paresis (Bonhöffer).

The *visceral lesions* are often dependent upon an infection which may be associated with the alcoholic intoxication, such as influenza, infection by the pneumococcus, or typhoid fever.

The *heart* is the seat of a myocarditis which in many of the fatal cases constitutes the immediate cause of death.

The *liver* presents a degeneration that is so frequently met with and at times so pronounced that Klippel [1] has been led to think that delirium tremens may be the result of an autoinfection of hepatic origin.

The lesions of the *kidneys* are, according to Herz,[2] those of acute parenchymatous nephritis. He states that these lesions are constant. Thus delirium tremens would seem to be nothing but an attack of uræmia to

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[1] Klippel. *Du délire des alcooliques. (Lésions anatomiques et pathogénie.* Mercredi médical, Oct. 1893.—*De l'origine hépatique de certains délires des alcooliques*, Ann. méd. psych., Sept.-Oct., 1894.

[2] Abstract in Centralblatt für Nervenheilkunde und Psychiatrie, May, 1898.

which a special aspect has been imparted by the chronic alcoholism.

Pathogenesis.—Delirium tremens is not to be considered as a simple alcoholic intoxication, a sort of belated drunkenness caused by an accumulation of the poison in the organism. Its clinical aspect in fact differs radically from acute intoxication. Moreover, the attack of delirium is apt to break out even after the alcoholic excesses have been suspended for several days. Finally, the patient makes a perfect recovery, even if alcohol is administered to him in large doses during the course of the delirium.

Some authors, Wernicke among them, attribute delirium tremens to sudden withdrawal of the alcohol. Experience does not seem to bear out this opinion; we meet daily with inveterate alcoholics in whom complete abstinence does not produce the slightest damage.

An important fact upon which Joffroy frequently insists in his lectures is that delirium tremens often breaks out at the occasion of an accidental infection, such as influenza, pneumonia, or suppuration. Thus it seems that the disease is caused by two agencies, alcoholism on the one hand and some accidental affection, most frequently an infection, on the other hand.

By what mechanism does their combination produce this effect?—Possibly by determining an autointoxication by insufficiency either of the liver (Klippel) or of the kidneys (Herz).

It should be remembered, however, that in many cases the second factor, the accidental infection, is not found. Perhaps, reduced to some disorder possessing

in itself no apparent gravity, such as an attack of gastric indigestion, it passes unnoticed.

Treatment.—Rest in bed is very useful and is applicable in the vast majority of cases. More so than in any other psychosis, in this disease mechanical restraint is dangerous and is to be prohibited.

The weak heart action and the poor condition of the liver and of the kidneys oblige the physician to make but very little use of hypnotics, especially in severe cases. The most serviceable and least dangerous are chloral and paraldehyde, which, administered in large doses, are of considerable value. They should not be used without previously excluding the likelihood of collapse.

Letulle has obtained good results from cold baths.

Alcohol in some form was formerly very popular as a factor in the treatment of delirium tremens. This practice is, however, useless, at least in most cases. When the patient's forces decline rapidly alcohol may be given as a stimulant.

Caffein and ether in subcutaneous injections often prevent grave cardiac disturbances.

The food should be substantial and should be such as to facilitate the elimination of toxines accumulated in the organism. A *milk diet* admirably fulfills this double indication. Sometimes it is useful to add eggs, and in cases where there is much weakness beef-juice or chopped meat may also be given.

B. ALCOHOLIC SYSTEMATIZED DELIRIUM.

Alcoholic systematized delirium differs from delirium tremens: (1) in the predominance of hallucinations

of hearing over those of sight; (2) in the absence of any marked disorders of consciousness; and (3) in its course, which most frequently presents a subacute character.

After a rather prolonged prodromal period marked, as in the case of delirium tremens, by an accentuation of the symptoms of chronic alcoholism, the patient becomes uneasy, distrustful, and suspicious. Gradually false interpretations, illusions, and persecutory ideas become established. He does not dare to leave the house, feeling that he is being watched, insulted, or threatened by passers-by or followed by the police. After several days or several weeks at most hallucinations of hearing appear followed often by hallucinations of the other senses.

The disease very rapidly reaches its highest development and then presents the following fundamental features:

(*a*) *Conservation of lucidity:* the patient continues well oriented, understands questions, and answers relevantly.

(*b*) *The painful character of the delusions and of the psycho-sensory disorders:* ideas of persecution of a variable nature: fear of being poisoned or assassinated, ideas of jealousy; imaginary insults or threats; frightful visions, especially marked at night, grimacing figures, ghosts, detectives coming to take the patient into custody, executioners, etc.; a taste or an odor of poison or of fæcal matter; sensations of scalding, pricking, or electric currents; motor hallucinations. These latter phenomena, but slightly marked in the majority of cases, point to a grave prognosis when they assume a

certain intensity; they often forebode a very prolonged course of the delirium and indicate the existence of a tendency towards intellectual enfeeblement. Hallucinations of taste and smell often cause refusal of food.

(*c*) *A tendency to systematization:* the subject seeks an explanation and a cause for the persecutions of which he is the subject. However, the systematization is of rapid development and is not always very accurate, so that it resembles but imperfectly that of chronic delirium.

(*d*) *A depressed mood and aggressive tendencies:* the patient, profoundly irritated, wreaks his vengeance upon innocent victims, being determined to defend himself against the persecutions of his enemies or to escape them by any possible means. If such a patient desires to die it is not, as is the case with other classes of patients, for the purpose of expiating some crime or of finding relief from remorse, but solely to escape the frightful tortures prepared for him by his enemies. Often he transforms his house into a veritable arsenal and, unfortunately, does not limit himself to simple demonstrations, but makes actual use of his weapons.

The somatic disorders of chronic alcoholism are all present in this affection. Sleep is diminished and filled with the pathognomic dreams.

The urine often contains a trace of albumen, which indicates a defective condition of the renal functions.

When ideas of jealousy predominate the affection merits the special name of *alcoholic delirium of jealousy*. The hallucinations in such cases occupy a secondary position, without, however, being entirely absent in

any case. The delusions are almost always absurd: the proofs that the patient furnishes of his wife's improper conduct are childish.[1]

As a general rule an attack of alcoholic systematized delirium tends towards *recovery*. This takes place gradually after several weeks or at most several months. The ideas of jealousy are the most tenacious; they may persist for a long time after the suppression of the alcohol.

The *prognosis* is, however, not altogether favorable, firstly because relapses are to be feared, and secondly because each successive attack leaves a noticeable trace upon the intelligence and accelerates the course of alcoholic dementia.

It is of great importance to make the differential *diagnosis* between alcoholic systematized delirium and the other affections in which systematized delusions are encountered, viz., dementia præcox, chronic delirium and paranoia. The reader is referred to the respective chapters devoted to these diseases for the points of differentiation.

The *treatment* is that of chronic alcoholism. The violent reactions of the patient usually necessitate commitment. Attacks of agitation are to be treated by the usual methods.

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[1] Villers. *Le délire de la jalousie.* Bruxelles, 1899.—Parant. *Le délire de la jalousie.* Thèse de Paris, 1901.

CHAPTER V.

CHRONIC INTOXICATION BY THE ALKALOIDS.

§ 1. Morphinomania.

Chronic intoxication by morphine brings about a condition known as *morphinism*. Morphinism constitutes *morphinomania* when the drug has become a necessity to the organism, so that its suppression causes a train of physical and psychical disturbances known as the *symptoms of abstinence*.

Etiology.—The study of the etiology of morphinomania involves the consideration of two distinct questions: (1) What individuals are apt to become morphinomaniacs? (2) How does one become a morphinomaniac?

(1) *What individuals are apt to become morphinomaniacs?*

Morphine is no longer, as it was formerly, an aristocratic poison limited to the upper classes. "Even rural populations are no longer exempt from the contagion; and the fault is chiefly with the physicians." [1]

Morphinomania is especially frequent among those who, on account of their profession or surroundings,

[1] Chambard. *Les morphinomanes.* Bibliothèque médicale Charcot-Debove.

can readily procure the poison; such are physicians, their wives, medical students, pharmacists, nurses, and laboratory attendants.

As in the case of alcoholism, the character of the soil is here also an important factor. The less energetic and mentally stable the individual is the more likely he is to yield to the seductive influence of the poison. Thus we find that morphinomaniacs are often degenerates.

(2) *How does one become a morphinomaniac?*—In many ways, but chiefly:

(*a*) Through *medication:* many subjects receive their first injection for the relief of some painful affection, as hepatic colic, neuralgia, or tabes.

(*b*) Through *curiosity:* this occurs especially among degenerates, idlers, individuals who are tired of all ordinary pleasures and are longing for new sensations, and whose unfortunate tendency is still farther stimulated by the example and proselytism of other morphinomaniacs.

(*c*) Through the need of a *cerebral sedative* or of *moral relief:* this occurs in the overworked (soldiers in time of war or young people during difficult examinations) and in those who are driven by some misfortune or ill-luck to seek in morphine a consolation for their sorrows and disappointments.

Doses.—The action of the poison becoming less effective in time, the doses necessarily increase more or less rapidly. The maximum doses taken daily by different patients vary greatly. One morphinomaniac, reported by Pichon, was in the habit of taking nine grams daily. Most patients limit themselves to smaller doses. Of the one hundred and twenty subjects com-

prised in the statistics of Pichon eighty-four took from 0.40 to 1.20 grams daily.

The methods of morphinomaniacs.—The places usually selected for the injections are the arms, forearms, thighs, or legs; the next in frequency are the abdomen and the chest. Very frequently these regions are covered with scars from abscesses caused by septic injections. These scars constitute, so to speak, the stigma of morphinomania and often enable the physician to establish the diagnosis in spite of repeated denials on the part of the patient.

Many morphinomaniacs take their injections without regularity or precaution and at any opportunity; others, in true epicurean fashion, select the moment and conditions when they can enjoy most profoundly their favorite pleasure. Some, again, have their hours regularly fixed, use only accurately prepared solutions of a certain strength, and take all antiseptic precautions; many take their daily quantity in divided doses; others take a single large dose daily in order to obtain the most intense effect.

SYMPTOMS AND EVOLUTION.

According to Chambard four periods may be distinguished in the career of a morphinomaniac, which succeed each other by imperceptible gradations.

First period: initiation or euphoria.—It has been aptly called the *honeymoon of the morphinomaniac.* Under the influence of the morphine physical pains, if they exist, disappear or become abated, the organic functions become more active, and the mind lapses into a pleasant reverie; ideas form themselves without any effort and

combine "to form ingenious conceptions, elaborate resolutions, vast enterprises which, alas, are never likely to last through the day"; depressing thoughts disappear and life assumes a smiling aspect.

Second period: hesitation.—Many subjects, conscious of their danger, make efforts to escape from it. They diminish the doses, reduce the number of injections, etc. Some even completely discontinue the use of the drug permanently or temporarily.

The period of hesitation is not constantly present; many patients by reason of their ignorance or lack of determination pass directly from the first period to the third.

Third period: morphinomania proper.—The poison has now impressed its stamp upon the organism and has established certain *permanent symptoms*. Moreover, its suppression gives rise to a series of characteristic phenomena, the *symptoms of abstinence*.

(*A*) *Permanent symptoms.*—(*a*) *Psychical phenomena.*—These consist in a general weakening of the psychical activity, and are manifested in the *intellectual sphere* by a sluggishness of associations and an impairment of attention contrasting with an intact orientation and a perfect lucidity, and by a retrograde amnesia of reproduction: the representations are in some way inhibited but not destroyed.

In the *emotional sphere* there is indifference and atrophy of the moral sense. All the aspirations of the patient reduce themselves to a single idea, that of procuring morphine by any possible means: disregard for conventionalities, swindling, falsehoods, violence, all seem to him permissible. Many morphinomaniacs

obtain their morphine from the druggist on false prescriptions, others sell their very household articles to purchase morphine for the money.

In the *sphere of the reactions* there is always a very marked *aboulia*. The patient is conscious of the ruinous results of his inactivity, but has not the power to overcome it. This symptom appears early and together with the indifference forms a characteristic feature of the mental state in morphinomania.

(*b*) *Physical symptoms.*—The *general nutrition* always suffers: loss of flesh, pallor of the skin, etc.

The *circulatory apparatus* shows a general atony. The cardiac impulse is weak; the peripheral circulation is sluggish; there are transient œdemas.

The *temperature* is often subnormal. A case of morphine fever has, however, been reported (Levinstein).

Motility: general muscular asthenia; a tendency to fatigue; tremors: "slow, regular oscillations resulting from a twisting movement of the limb upon itself." [1]

Sensibility: slight hyperæsthesia which is at times unilateral; diminution of the acuteness of vision, often dependent upon a "pallor of the optic disc, which may advance to atrophy." [2]

The *pupils* are frequently myotic.

The *tendon reflexes* are occasionally diminished.

(*B*) *Symptoms of abstinence.*—When the hour for his injection has passed the morphinomaniac becomes restless, his expression becomes anxious, and his respirations accelerated. A state of *anxiety* soon appears, accompanied by a very marked inhibition of all the psychic

[1] Jouet. Quoted by Chambard, *loc. cit.*

[2] Pichon. *Le morphinisme*, 1890.

functions. The patient abandons his unfinished work or conversation and leaves, complaining that he is unable to bear the tortures of which he is a victim. At the same time there is the appearance of the pathognomonic *somatic symptoms:* extreme pallor of the face, acceleration and weakening of the pulse, general prostration, cold sweats, and spells of yawning. If abstinence continues the condition may become alarming: obstinate diarrhœa appears and collapse is threatened.

No matter how grave the symptoms become an injection of morphine always affords instantaneous relief.

Occasionally the mental symptoms present all the features of a veritable acute psychosis: agitation, anxiety, persecutory ideas, psycho-sensory disorders, excitement simulating that of mania; these may be associated with hysteriform or epileptiform attacks.

Fourth period: cachexia. — The symptoms of the preceding period become more marked. The psychic disaggregation in some cases resembles true dementia. The craving for the drug is greater than ever. The loss of flesh reduces the patient almost to a skeleton; the stomach rejects the food and a permanent and intractable diarrhœa becomes established; the blood pressure becomes low, the cardiac impulse grows weaker and weaker, the pulse becomes small, thready, and irregular; the renal changes, which are frequent, give rise to albuminuria.

Numerous complications are apt to appear, rendering the prognosis still more serious: pulmonary tuberculosis, furunculosis, phlegmons hasten the fatal termination, which occurs at the end of the fourth period.

Associated intoxications.—The intoxicants, the abuse of which is often associated with morphine, are chiefly ether and cocaine. Cocainomania will be made the object of special study. Ether, absorbed from the respiratory tract or from the digestive passages, brings about a state of euphoria analogous to that produced by morphine. In certain cases there is a period of excitement which may reach the intensity of delirium and which is followed by comatose sleep.

Treatment. — Its aim is the *discontinuance of the morphine.* This may be attained by three methods: the sudden method (Levinstein), the rapid method (Erlenmeyer), and the gradual method (the so-called French method).

The suppression of morphine or demorphinization cannot be carried out outside of a sanitarium for the following two reasons: (1) because the patient should be, in case of threatened collapse, within immediate reach of medical aid; (2) because only a rigorous supervision can prevent the patient from procuring the drug clandestinely.

The method of choice is rapid suppression. "It is a fact, recognized to-day by all physicians experienced in the treatment of morphinomania, that rapid suppression is the best method of treatment." [1] The period of demorphinization lasts from five to twelve days. The principle consists in diminishing the dose each day by one half of that administered on the preceding day, and finally, on reaching a minute ration, completely suppressing the drug. It is in the latter

[1] Sollier. *La démorphinization.* Presse médicale, April 23 and July 6, 1898.

days of the suppression that the symptoms of abstinence appear with the greatest intensity. Patients who descend without much difficulty from one gram or more to several centigrams experience grave disturbances when they are deprived of this minute allowance.

Adjuvant therapy.—The *diet* should be tonic and reconstructive. In the cases of marked cachexia it is advisable to improve the state of the general nutrition before the complete demorphinization.[1]

The digestive tract and the heart demand special attention.

Gastro-intestinal disorders may be prevented by the use of bicarbonate of soda (2–6 grams daily), and cardiac failure by heart stimulants, such as caffein, strophanthus, and, if necessary, digitalis.

A morphinomaniac cannot be considered recovered until a long time has elapsed after the suppression of the drug. The return to ordinary life is for him a critical moment; for this reason isolation in a sanitarium should be continued for several weeks after the last injection.[2]

This prolonged detention is further justifiable by the grave complications, notably fatal epileptiform attacks, which may occur long after complete demorphinization.

In spite of all these precautions permanent cures are the exception and relapses are the rule.

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[1] Joffroy. *Traitement de la morphinomanie.* Gaz. hebd. de Méd. et de Chirurgie, 1899 and 1900.

[2] [At least a full year's sojourn in a sanitarium under strict supervision is necessary for the more or less successful prevention of relapses. See Kraepelin's *Lectures on Clinical Psychiatry.*]

§ 2. Cocainomania.

It seems that cocainomania first appeared in 1878, when Bentley made the fatal suggestion of treating morphinomania by means of injections of cocaine.

Like morphine, cocaine produces immediately after its absorption a peculiar state of euphoria characterized chiefly by a sense of vigor and energy. The craving becomes established after the first few injections, much sooner than in the case of morphine.

I shall describe successively the habitual mental state of the cocainomaniac and the cocaine delirium.

Habitual state.—Normal activity is replaced by *indolence*, and the affectivity by *indifference*. All the faculties are dulled. The memory is paralyzed, there being both anterograde amnesia by default of fixation and retrograde amnesia by default of reproduction. The mood is usually sad, gloomy, and pessimistic, and the will power is nil.

This state of general enfeeblement is interrupted by *sudden outbreaks of gaiety and feverish activity*, which disappear very soon, leaving behind them an intensified psychasthenia.

The sensory organs are the seat of *hyperæsthesia*, so that even slight stimulation produces painful sensations. At intervals hallucinations appear, which constitute the germ of the true delirium. Conscious in the beginning, the hallucinations are later accepted by the subject as real sensations.

The *general nutrition* is poor. The *skin* assumes an *earthy* color; the *weight is reduced;* the process of *digestion is sluggish and painful;* and there is *diarrhœa* alternating with *constipation.*

Cocaine delirium.—It is a delirium of a painful character associated with delusional interpretations; its main features consist in psycho-sensory disorders which, in spite of their extraordinary distinctness, are compatible with perfect *lucidity*. The illusions and hallucinations may affect all the senses, but especially vision, touch, and the muscular sense.

Objects change their shapes and are constantly moving. A patient of Saury's [1] felt himself assailed by a swarm of bees which he could see and feel. Many cocainomaniacs feel worms creeping over their bodies or coming out of their flesh; they see them, seize them with their fingers, and crush them under their feet. Many also perceive imaginary movements: the ground shakes beneath them, their bed is upset, or the house they are in, swept by a flood, floats upon the waves. Hallucinations of hearing, taste, and smell, though not rare, occur less frequently than the preceding and present no special characteristics.

Sometimes the delusions assume the form of *morbid jealousy*, as in systematized alcoholic delirium.

The *reactions* of the patient are governed by the delusions and are often violent.

The *duration* of the attack is brief, several weeks at the longest, and in some cases but a few days. I have seen a typical case of cocaine delirium terminate in forty-eight hours.

The *treatment* consists in the suppression of the poison, which can in the great majority of cases be accomplished by the sudden method without serious inconvenience.

[1] Saury *Cocaïnomanie*, Ann. méd. psych., 1889.

CHAPTER VI.

PSYCHOSES OF AUTOINTOXICATION ACUTE AND SUBACUTE.

§ 1. Uræmic Delirium.

Uræmic delirium presents the usual features of toxic deliria: more or less complete clouding of consciousness, disorientation, phenomena of psychic automatism, among which psycho-sensory disorders occupy a prominent place.

The delusions, the emotional tone, and the reactions enable us to distinguish two principal forms of uræmic delirium: an expansive form and a depressed form.

Expansive form.—The patient is a great personage, a general, a prince; he assists at a grand review, gives commands to his officers, or orders sixteen horses to be harnessed to his carriage; the Pope presents him with the imperial crown.

Often the delirium takes a *mystic* form: the heavens open, celestial music is heard, or angels descend on an immense ladder as in Jacob's dream.

Depressed form.—Melancholy ideas combine with ideas of persecution and hallucinations of an unpleasant character. The patient imagines people are searching for him to drag him to the scaffold; the house is on fire; an odor of sulphur is diffused through the air.

Whatever be the form of delirium, the reactions are often very powerful and give rise to violent, at times terrible, agitation. Often, also, in the melancholic and mystic forms, there is marked stupor with a tendency to cataleptoid attitudes.[1]

As to the development of the attack, we distinguish an *acute form* characterized by severe symptoms: intense agitation or, on the contrary, profound stupor, incessant hallucinations, extreme confusion with clouding of consciousness, etc.; and a *subacute form* characterized by symptoms of lesser intensity and by periods of comparative lucidity alternating with delirious periods.

In some exceptional cases of uræmic delirium of the subacute form the delusions become systematized and may thus be misleading in the diagnosis.

The mental symptoms of uræmic delirium present no pathognomonic features and are merely the manifestation of poisoning of the cerebral cells. The *diagnosis* must be made from the accompanying somatic symptoms: convulsive attacks, cardiovascular disorders, dyspnœa, œdema, pupillary manifestations,—myosis and paresis of the pupils,—diminution of the specific gravity and of the toxicity of the urine, albuminuria, anuria, oliguria, or polyuria.

Uræmic delirium is often very similar to delirium tremens. It seems that the two affections may even be combined. Brault [2] is of the opinion that uræmia, like traumatism or pneumonia, may act as the exciting

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[1] Brissaud. *De la catatonie brightique.* Sem. méd., 1893.—Cullerre. *Sur un cas de folie urémique consécutif à un rétrécissement traumatique de l'urèthre.* Arch. de neurol., Vol. XXVII, No. 89.

[2] *Traité de médecine.* Charcot-Bouchard. *Maladies des reins.*

cause of an attack of delirium tremens. We have already seen how much importance is attributed by some authors, notably by Herz, to uræmia as a pathogenic factor in delirium tremens.

The *prognosis* depends upon the severity of the somatic disturbances.

The *treatment* is that of uræmia in general: milk diet, blood-letting, purgatives, and diaphoretics.

§ 2. The Polyneuritic Psychosis.

The polyneuritic psychosis or Korsakoff's [1] disease is an affection constituted by the association of the phenomena of polyneuritis with specific mental disorders, among which *amnesia of diverse forms constitutes a preponderant feature.*

Etiology.—The polyneuritic psychosis forms from an etiological standpoint a transition between infectious psychoses, toxic psychoses, and psychoses of exhaustion. In fact infections, intoxications, and exhaustion each have the power to give rise to the disease: it may supervene in the course of chronic alcoholism, or following a profuse hemorrhage or an infectious disease such as influenza. It is probable that all of these factors produce their effect by the same mechanism,—most likely by inducing a disorder of general nutrition resulting in an autointoxication.[2]

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[1] Congrès de Médecine, 1889.—Luckerath. *Beitrag zu der Lehre von der Korsakow'schen Psychose.* Neurol. Centralblatt, April, 1900.

[2] Therefore, slightly modifying the classification of Kraepelin, we have placed the polyneuritic psychosis not among the infectious psychoses proper, but among the psychoses of autointoxication.

Symptoms.—In some cases the symptoms of the polyneuritic psychosis appear gradually, without any striking phenomena at the onset; much more often the onset is acute: agitation, numerous hallucinations, and anxiety render the resemblance to *delirium tremens* so marked as to lead very frequently to errors in diagnosis. After several days the agitation subsides, but the disorientation persists and the characteristic amnesia appears together with the phenomena of polyneuritis.

The amnesia is both anterograde and retrograde.

The *anterograde amnesia* results from the total abolition, or at least a marked diminution, of the power of fixation. The patient forgets in a few moments a visit which he has received or the gist of what he has just read. On leaving the table he asks whether it is not almost time for dinner and complains of having no appetite.

The *retrograde amnesia* is purely functional, by default of reproduction; on recovery from the disease the old representations reappear intact.

The effacement of representations occurs in conformation to the law of retrogression. Depending upon the severity of a particular case, the amnesia involves the events of a more or less considerable period of time.

Imaginary representations, illusions, and hallucinations of memory fill the gaps created by the amnesia. Thus quite frequently the paitent is totally unconscious of the disorder of memory and unhesitatingly replies to all questions put to him. Often also, modifying facts of which his impression is more or less vague, adjusting some details and suppressing others, the patient

narrates *imaginary reminiscences* the principal features of which are their *mobility*, their easy *modifiability* by appropriate suggestions, and their being usually limited to the bounds of possibility. The latter characteristic is, however, not constant, for the fabrications in the polyneuritic psychosis may be altogether improbable or even absurd.

The following specimen has been taken from an observation made upon a case of polyneuritic psychosis following the abuse of absinthe:

Q. Since when have you been here?

A. Since this morning.

Q. What were you doing yesterday?

A. I went to the market to buy some eggs. After that I went to see my sister and took dinner with her.

Q. Don't you ever go to the theater?

A. Oh, that's true, . . . I went there after work last night . . . it was very beautiful.

Q. What play did you see?

A. Really . . . just wait a minute . . . it was very beautiful . . . they sang . . . they had superb costumes . . . I cannot recollect the name of the play.

In reality the patient, who had been in the asylum during the three weeks previous, had not left his bed since his admission on account of a very marked paresis of both lower extremities.

To these pathognomonic disturbances of memory are added also *complete loss of orientation* of time and place, numerous *illusions* which often assume the form of false recognitions, and occasional hallucinations which are more or less fleeting.

The *emotional* tone is usually one of indifference; sometimes there is slight euphoria.

In spite of their intensity the psychic symptoms are in many cases not very apparent at the beginning. The patients are quiet, understand well the questions put to them, and reply in a calm and often even in an intelligent manner. They often appear to be normal because a conversation of several minutes scarcely suffices to reveal the pathognomonic amnesia and the disorientation.

The *signs of polyneuritis*, paresis of the lower extremities, abolition of the tendon reflexes, paræsthesias, lightning pains, hyperæsthesias of circumscribed muscular masses,—to mention only the principal ones,—vary widely in intensity. They are at times mild, while the mental disturbance may be quite marked. Possibly they may be even entirely wanting in certain cases that are perfectly typical from the psychic standpoint.

The general health is always affected to some extent. Occasionally a cachexia may develop and end fatally. Also cardiac disturbances are often noted, feeble action, irregularity, etc., which in a number of cases are dependent upon a neuritis of the pneumogastric nerve.

Duration, prognosis. — The duration of the polyneuritic psychosis is quite long, several months in the majority of cases and sometimes over a year.

Three modes of termination are possible:

The most frequent is complete recovery with *restitutio ad integrum*. Only a more or less complete amnesia for occurrences of the period of the actue symptoms remains. Convalescence is much prolonged.[1]

[1 This statement is not borne out by our experience. Of twelve cases observed during several years at the Long Island State Hos-

The second mode of termination, much less frequent, is *death*, which results either from cachexia or from some intercurrent complication (influenza, pneumonia, tuberculosis).

The third, still rarer, is the passage into a chronic state tending toward dementia.

The *diagnosis* is to be based on: (*a*) the very marked and characteristic disorders of memory; (*b*) the apparent lucidity of the patient, contrasting with the real disorientation; (*c*) the coexisting signs of polyneuritis.

Treatment.—The treatment is analogous to that of acute confusional insanity; it consists chiefly in rest in bed combined with a reconstructive diet.

It is scarcely necessary to add that abstinence from all alcoholic beverages should be rigorously enforced, especially when alcoholism is the cause.

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pital not one resulted in complete recovery; in all of them there remained a more or less pronounced amnesia with a tendency to fabrications. These were all alcoholic cases; possibly in mild cases and in cases with a different etiology the prognosis is more favorable.]

CHAPTER VII.

PSYCHOSES OF CHRONIC AUTOINTOXICATION.

THRYOGENIC PSYCHOSES.

The destruction of the thyroid gland determines a peculiar autointoxication which is met with in two different clinical forms: *myxœdema* and *cretinism;* in the former the destruction of the gland occurs at an adult age, in the latter it occurs in infancy.

§ 1. Myxœdema.

The external aspect of a myxœdematous patient is characteristic. The puffed and expressionless face together with the general attitude reflect both the mental inertia and the profound disorder of the general nutrition.

Psychic disturbances.—These consist chiefly in symptoms indicating a *blunting and torpor of cerebral activity,*—psychic paralysis: there is extreme sluggishness of the associations of ideas demonstrable by simple clinical examination as well as by psychometry; the attention is difficult to obtain and to fix; there are also retrograde amnesia by default of reproduction and anterograde amnesia by default of fixation; permanent indifference; aboulia.

The indifference is occasionally interrupted by transient attacks of irritability. Myxœdematous patients are often sulky and ill-natured.

Physical disturbances.—The sleep is diminished, replaced by a permanent somnolence, and disturbed by nightmares.

The reflexes are diminished or completely abolished; all movements are sluggish, awkward, and clumsy.

But the most interesting disorders are those of the *integuments* and of the *thyroid* gland.

Integuments.—The skin is thickened and infiltrated; its surface is smooth and of a dull whiteness. On palpation it gives the sensation of waxy tissue. There is no pitting on pressure, this being the point of distinction between myxœdematous infiltration and anasarca.

The features are dulled, the eyes sunken, and the lips thickened; the wrinkles of the forehead disappear, and the naso-labial fold becomes effaced. The physiognomy is immovable and stupid. The hair of the head, eyebrows, and beard is scant, discolored, and atrophied. These characteristics are pathognomonic of the myxœdematous facies.

The hair over the entire body is atrophied. The nails become deformed and brittle.

The mucous membranes present a thickening analogous to that of the skin. They are pale, anæmic, and in places cyanotic.

Thyroid gland.—On palpation one finds atrophy or even complete disappearance of the gland.

Sometimes the thyroid gland is increased in size, causing an abnormal prominence in front of the neck.

This hypertrophy, true or false, is generally transitory, and occurs chiefly in the early stages of the disease. When the swelling persists through the entire duration of the affection, it is usually the result of a cystic degeneration of the gland.

The visceral disorders do not present any characteristic features; they indicate the general atony and diminished vitality of the organism: small, compressible pulse, sluggish and painful digestion, and constipation.

The course of myxœdema is progressive, but interrupted by frequent remissions.

If no appropriate treatment is instituted, the stock of ideas becomes diminished, the psychic inertia becomes extreme, and complete dementia is established; also the physical symptoms become accentuated and death supervenes either from cachexia or from some complication (pulmonary tuberculosis).

Treatment.—It is possible to supply, to a certain extent, the deficiency caused by atrophy of the thyroid gland by the administration of the thyroid gland of animals (almost exclusively that of the sheep), either in the crude form or in the form of pharmaceutical preparations. The thyroid substance may be administered in tablets, pills, or capsules containing it, either in the fresh state or dried and reduced to a powder. The capsules of Vigier contain ten centigrams of the fresh gland; they may be administered in doses as high as six capsules per day without inconvenience.

A glycerine extract of thyroid gland is also prepared and is known by the name of thyroidine.

Finally, Baumann and Proos have extracted from the

sheep's thyroid a substance, *iodothyrine*, which seems to be the active principle. This substance is "triturated with sugar of milk in such proportions that one gram of the mixture represents one gram of the fresh gland." [1]

Thyroid medication must be employed with great caution. Toxic symptoms are easily produced: acceleration of the pulse and respiration, headache, attacks of vertigo, and, in severe cases, a tendency to collapse. Therefore it is advisable to begin the treatment with small doses, which should be gradually increased, and promptly reduced or suspended entirely on the appearance of alarming symptoms.

The mental and physical effects of thyrotherapy are very rapid. In a few days the cerebral torpor becomes less marked, the skin reassumes its normal aspect, and the other myxœdematous symptoms become abated.

§ 2. Cretinism.

Cretinism may be defined as an arrest of somatic and psychic development dependent generally upon a goitre, and more rarely upon a simple atrophy of the thyroid gland.

The affection occurs *endemically* in mountainous regions, such as the Alps, the Rocky Mountains, the high plateaus of Himalaya, Black Forest, etc., and *sporadically* in most regions.

Its *etiology* is not well known. Numerous factors are said to be capable of causing it: atmospheric humidity;

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[1] Briquet. *Valeur comparée des médications thyroïdiennes.* Presse médic., 1902, No. 74.

geological composition of the soil (cretinism occurs frequently in countries where the soil is composed of schistose clay or of streaked sandstone); poor quality of the water, which in the endemic sections is poorly aerated, deprived of iodine, and charged with calcium and magnesium salts; want; heredity.

All of these causes, the influence of which should be kept in view, probably only prepare the soil for the action of some specific agent still unknown. According to the opinion of Griesinger, "endemic goitre and cretinism are specific diseases produced by a toxic cause of miasmatic nature." This attitude certainly most nearly corresponds to the modern medical consensus of opinion and has at present the greatest number of adherents. In fact one cannot fail to note the similarity which exists between the etiology of endemic goitre and that of other endemic diseases of parasitic or, as Griesinger says, *miasmatic* origin, such as malaria.

The *symptoms* of cretinism usually appear in early childhood. Sometimes the onset is acute, so that the destruction of the gland is accomplished in a few days. Such was the case reported by Shields,[1] in which an acute thyroiditis caused the destruction of the thyroid gland and resulted in cretinism.

Much more frequently the process is insidious, and it is impossible to ascertain the exact date of onset.

The size of the goitre is variable. The swelling may be slight, scarcely perceptible, or so enormous as to completely disable the patient. Resulting usually

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[1] *A case of cretinism following an attack of acute thyroiditis.* New York Med. Jour., Oct 1, 1898.

from a degeneration of the thyroid gland, it becomes evident at about the sixth or eighth year of age and increases up to the time of puberty or even later.

Simple atrophy of the gland is much less frequent and is seen chiefly in sporadic cases.

Physically the cretin exhibits, in addition to the changes in the thyroid gland, the following symptoms: the stature is below the normal; the face is pale, puffed, pilous or marked precociously with senile wrinkles; the system is poorly developed; the mucous membranes are pale, anæmic, and thickened; the teeth are abnormal in shape and in implantation and subject to caries; puberty is retarded or even absent, and the cretin may remain infantile all his life.

Psychically we encounter all degrees of idiocy and imbecility.[1] It seems, however, that the cretin is less impulsive, more manageable, and more capable of emotional activity than the ordinary idiot or imbecile.[2]

The brain of cretins presents no known specific lesions; asymmetry and various malformations of the hemispheres are frequent.

The *treatment*[3] consists in thyroid medication, the results of which are the more perceptible the earlier it is instituted.

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[1] See Chap. XVII, p. 327.
[2] Bourneville. *Progrès médical*, 1897.
[3] *Ibid.*, 1890.

CHAPTER VIII.

DEMENTIA PRÆCOX.—CHRONIC DELIRIUM.

§ 1. Dementia Præcox.

Under the term hebephrenia, Hecker, inspired by his preceptor, Kahlbaum, described a psychosis which develops by predilection at the age of puberty and which terminates in a peculiar state of intellectual enfeeblement.

Later Kraepelin extended the views of Hecker and added to this group catatonia,[1] which had previously been considered an independent affection, and paranoid dementia, which includes the majority of cases of systematized deliria commonly assigned to the vast and ill-defined group of paranoias. This fusion resulted in a new morbid entity: *dementia præcox.*

At the same time the problem of precocious dementia, which had already been raised by Esquirol and Morel, but had been neglected since their time, has appeared anew in France. Joffroy presented in his clinical lectures cases of *juvenile dementia.* Christian also published under the title *Precocious Dementia in Young Individuals* [2] an important work based upon personal obser-

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[1] Kahlbaum. *Die Katatonie oder das Spannungsirresein,* 1894.

[2] Christian. *De la démence précoce des jeunes gens.* Contribution

vations. More recently Sérieux, who had already introduced the ideas of Kraepelin to the French medical world, published a clear though brief monograph upon this new affection, based upon the observations of the above-named authors as well as upon those of his own. To-day *dementia præcox* occupies a prominent place in French psychiatry, the framework of which it has profoundly modified, absorbing a large number of the deliria of degenerates (polymorphous deliria, systematized deliria, etc.).

The disease appears in many forms that are quite difficult to classify. In Germany, following Kraepelin, three principal forms are distinguished: hebephrenia, catatonia, and paranoid dementia. Delusional types of hebephrenia resemble paranoid dementia so closely that it is often impossible to determine to which of these forms a given case is to be assigned. It seems more convenient for practical purposes to describe separately the following three forms: simple dementia præcox without delirium; dementia præcox of the catatonic form; and dementia præcox of the delusional form.

Before making a special study of each we shall describe the symptoms that are common to all forms of the disease, especially the characteristic intellectual enfeeblement which is the basis of dementia præcox and which is a constant feature.

à l'étude de l'hébéphrénie. Ann. méd. psych., 1899.—Sérieux. *La nouvelle classification du professeur Kraepelin.* Rev. de psych., 1900, No. 4.

COMMON SYMPTOMS.

Intellectual enfeeblement.[1]—The intellectual enfeeblement of dementia præcox is *essentially elective*. It affects certain faculties profoundly, leaving others intact, and thus assumes a characteristic aspect which places it in a clearly defined position in the group of dementias.

Lucidity and orientation.—These very frequently remain intact, although the appearance of the patients would scarcely lead one to think so. Many patients appear to be ignorant of what occurs about them, but nevertheless reply rationally and correctly to questions concerning the date, their surroundings, and even the important events of the day. We shall return to this question in connection with the study of catatonia.

Memory.—Like the lucidity, the memory is but slightly affected, at least in the majority of cases, for a considerable number of years. Old impressions remain well defined, and the knowledge acquired during youth and childhood is often astonishingly well preserved. An old asylum inmate, a typical case of dementia præcox, who has been in the institution for fifteen years, is still able to name without hesitation and in their proper succession all the French rulers from the time of Clovis.

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[1] In some cases of dementia præcox the intellectual enfeeblement involves all the psychic functions and is at times so marked that all mental activity seems to have disappeared, so that the patient cannot, from this point of view, be distinguished from an idiot or from an advanced general paretic. Such cases are exceptional.

Actual occurrences impress themselves quite durably upon the memory. Many patients are able to relate events that have taken place since their commitment, and can often even name the physicians and attendants that have followed each other on the service during several years.

However, when the affection is of long standing it is rare for the memory not to have become impaired to some extent. Anterograde amnesia is the first to appear: the capacity of fixation becomes diminished. Retrograde amnesia appears later and is usually less marked. Little by little the old impressions grow fainter and may even become entirely effaced.

Attention.—This faculty is always weakened. Any labor requiring some degree of concentration becomes impossible.

Associations of ideas.—These are sluggish and often occur without any apparent connection,[1] giving rise to speech which may reach the extreme limits of *incoherence.* I have given a very typical example of such speech. These incoherent phrases are uttered quietly and without the volubility which characterizes the flight of ideas of the maniac. On superficial examination this phenomenon may create the impression of a profound state of dementia or mental confusion, which in reality does not exist. The patient whose incoherent speech we have quoted as a typical specimen is perfectly oriented and possesses quite a good memory.

The *affectivity and reactions* are greatly impaired from the beginning. *Indifference* constitutes an early and

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[1] See page 68.

very prominent symptom of dementia præcox. The patient takes no interest in anything, expresses no desires, makes no complaints. Often even hunger determines no reaction. If the patient is accidentally forgotten at meal-time he evinces no surprise and makes no protest. As in all conditions of dementia, this disorder of affectivity is not a conscious one.

Occasionally, especially at the onset of the illness, this habitual state of indifference is interrupted by explosions of anxiety or of anger, for which there is often no apparent cause.

A priori the moral indifference of dementia præcox would be expected to lead to a reduction of the voluntary and normal reactions. Actual observations upon patients prove that this is really the case.

On the other hand, the automatic reactions are often exaggerated. They manifest themselves under all the forms studied in the first part of this work, General Psychiatry; pathological suggestibility, negativism, and impulsiveness (stereotypy of movements and of attitudes, verbigeration, grimaces, unprovoked laughter, etc.).

Somatic disorders.—The number of known somatic disorders of this disease is constantly increasing as the result of the special attention recently bestowed upon the subject by alienists. Unfortunately none of these bodily signs can be considered as constant or pathognomonic. They are present in all the three forms of the disease, though they are perhaps more marked in the catatonic form.

Motility.—Its disorders consist in hemiplegias and monoplegias that are slight and of short duration; con-

vulsive hysteriform or epileptiform seizures, to which are also to be added apoplectiform attacks so closely simulating true apoplexy as to be liable to be mistaken for it. The contractures often observed are usually the consequence of negativism.

Sensibility.—One must be guarded against attributing the absence of reaction to pricking, which results from negativism, to anæsthesia. True disorders of sensibility are, however, far from being exceptional. They are often unilateral, as in hysteria. Other hysteriform symptoms of the same order are also encountered: tender areas, clavus, globus hystericus, etc.

Tendon reflexes.—Sometimes diminished or abolished, much more frequently exaggerated.

Pupils.—Their disorders are frequent but variable: inequality, mydriasis, sluggish reactions, the phenomenon of Piltz, i.e., contraction of the pupils on forcible closure of the eyelids. This phenomenon is analogous to the following one, which has been observed at the same time, independently, also by Piltz and by Westphal: "If the patient attempts to shut his eyes while his effort is opposed by the examiner who holds the lids apart forcibly with the fingers, a contraction of the pupils takes place while the eyeball is rolled upward and outward." [1]

The pupillary disorders often undergo fluctuations corresponding to those of the mental condition. I recall a case of catatonia in which the intensity of the stupor determined, as it were, the degree of mydriasis. As the stupor disappeared the pupils reassumed their normal size.

Circulatory apparatus.—Vasomotor disorders causing

[1] Piltz. *Revue neurologique*, 1900, No. 13.

œdemas, cyanosis of the extremities, and dermographia are frequent. Sometimes the pulse is slowed.

The *temperature* may be subnormal (Kraepelin).[1]

Digestive tract.—Indigestion, anorexia, and constipation are often found, especially during the acute period. The development of mental enfeeblement is occasionally marked by boulimia.

Urinary apparatus.—Sometimes there is polyuria, at other times, on the contrary, oliguria. The changes in the composition of the urine are but little known. A diminution in the excretion of urea and of phosphates has been found.

Secretions.—We know nothing of the disorders of the secretions excepting that of saliva, which in some cases is greatly increased.

General nutrition.—Its changes, though undoubtedly of great importance, are as yet but little known. The weight is reduced in the acute stages, but rises again during the quiet periods. Some precocious dements present a remarkable degree of corpulence.

The physical phenomena which we have here mentioned are difficult to account for. They, however, enable us to draw the very interesting conclusion that the morbid process of unknown nature, and psychically manifested as dementia præcox, affects not only the brain but the entire organism.

A. SIMPLE DEMENTIA PRÆCOX.

I shall give but a brief description of this interesting form, which unfortunately has received but little attention. The symptoms of mental enfeeblement described

[1] *Lehrbuch der Psychiatrie,* Vol. II, p. 190.

above are here encountered in a state of purity. I shall say only a few words concerning the onset of the disease.

The *onset* is almost always insidious, and it is usually impossible to determine even approximately its date. A subject previously affectionate, active, intelligent, even brilliant, becomes indifferent, indolent, and distracted. He is weary of everything, of play as well as of work. He ceases to acquire new ideas, or to coordinate those which have been acquired previously, so that his stock of general ideas becomes more and more limited.

Nervous symptoms (headache, insomnia, hysteriform disturbances) or constitutional symptoms (anorexia, loss of flesh) are frequent, especially at the onset.

In the mild forms the disease is often unrecognized. The symptoms of intellectual enfeeblement pass for "negligence" or "ill-humor." Such cases occur much more frequently than is commonly believed.

B. CATATONIA.

Onset.—Prodromata are almost constant; they possess no specific features: change of disposition, inaptitude for work, insomnia.

Often the symptoms of *melancholia* open the series of grave phenomena. In themselves they present no pathognomonic features, but consist merely in a state of depression or of moral pain which may be associated with delusions and hallucinations.

Soon the catatonic phenomena proper appear; they may occur also at the onset without being preceded by the period of depression mentioned above. They depend upon a disorder of affectivity, *moral indifference*,

and a disorder of the reactions, *disappearance of the normal will* associated with an *exaggeration of the mental automatism*. Clinically they present themselves under two principal forms: *catatonic excitement* and *catatonic stupor*.

Catatonic excitement.—Sometimes, especially at the beginning, it simulates an attack of confusional insanity or of mania: disordered movements, incoherent speech, impulsive reactions. Soon, however, the nature of the symptoms becomes more definite and the peculiar characteristics of catatonic excitement appear. Its principal features are four in number:

(1) Catatonic excitement is free from any emotion;

(2) It is not influenced by external impressions;

(3) It is not, at least in the majority of cases, governed by definite delusions;

(4) It is monotonous (stereotyped movements, verbigeration).

In other words, the reactions in catatonic excitement attain the extreme limits of automatism.

The spells of excitement occur without cause in an impulsive and unexpected manner. The patient performs most singular and at times most dangerous acts without being able to furnish any explanation for his conduct even when the attack has passed and has left in his mind a clear recollection of all that he has done. A catatonic, perfectly composed an instant before, leaves his bed, seizes a glass and throws it violently at the head of his neighbor. Another breaks to pieces a thermometer imprudently left in his possession. A third calls loudly for a drink of water while holding in his hand a glass filled to the brim. Some display for weeks

or months suicidal tendencies without there being any depressive ideas to account for them.

The movements, attitudes, and conversation present stereotypy and verbigeration. Often the patients assume an affected or dramatic air. Their gestures, manners, and fantastic dress frequently survive the period of excitement and persist through the quiet periods and the terminal dementia. Some patients will hop on one foot for months instead of walking; others will invariably respond to all questions by the same phrase; still others will not eat their food without first mixing it up into a disgusting mess; others, again, will walk back and forth on a short path all day long, taking alternately a certain number of steps forward and the same number backward. Such examples could be multiplied infinitely. Most frequently these peculiarities in the conduct of the patient are purely automatic and remain inexplicable. They are usually not dependent upon delusions. Their origin lies in a perversion of the reactions, and not in any disorder of ideation or of perception. Although delusions and hallucinations are not invariably absent in catatonia, as is insisted upon by Tschisch, they are, however, too rare to explain the anomalies of the reactions, which are constant.

Catatonic stupor.—This may follow a period of depression or one of catatonic excitement, or it may be primary, constituting the onset of the disease.

In its true sense the term "stupor" implies the existence of a profound disorder of consciousness. In this connection, however, the word is used in a different sense. As a matter of fact the lucidity is but slightly

if at all affected in the catatonic. Impressions of the external world are perceived almost normally. Very frequently the patient, though apparently unconscious of his surroundings, relates, after the stuporous attack has passed, with surprising precision the facts which would seem to have totally escaped his observation.

In spite of appearances catatonic stupor [1] is therefore not the result of an intellectual disorder proper, but, like catatonic excitement, of a disorder of the will.

The automatism of the reactions is met with in three forms, which we have already mentioned: negativism, stereotypy, and pathological suggestibility.

The *negativism* is manifested in simple acts, such as movements of a limb, as well as in complex acts, such as eating, dressing, etc. The patient fails to react to stimuli either from the external world or from his own organism.[2] An order given is not executed. Pricking, even when deep, produces no movement, not because it is not felt, but because voluntary reaction is annihilated. Hunger produces no reaction. The urine accumulates in the bladder, the saliva in the mouth, the fæcal matter in the rectum without there being any true paralysis.

Two particularly interesting forms of negativism are mutism and refusal of food. Either symptom may persist for a long time without interruption and each may present very diverse characteristics.

Stereotypy is seen in the attitudes and in the physiognomy.

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[1] Tschisch. *Die Katatonie.* A Russian work abstracted in *Allgem. Zeitschr. für Psychiatrie*, 1900.

[2] Stoddart. *Anesthesia in the Insane.* The Journal of Mental Science, Oct. 1899.

Certain patients assume very singular positions: extreme flexion of the limbs, a squatting position, the elbows upon the knees, the head drawn back, etc.

The physiognomy of the patient is often distorted by grimaces. The lips are contorted in a kind of grin, or protruded, as though the patient were making faces. The eyes may be closed tightly. These phenomena may persist for months or years. Almost always, at least in the beginning, they disappear during sleep.

Pathological suggestibility often alternates with negativism. Certain catatonics retain any attitude that they may be placed in, even the most uncomfortable (cataleptoid attitudes). Incapable of making their toilet they submissively allow themselves to be washed, combed, and dressed. Many become filthy and soil and wet themselves unless taken to the toilet at regular intervals. Sometimes a single impulse suffices to start the subject and make him accomplish in a sort of mechanical manner some habitual act or even series of acts: once seated at the table with his plate filled in front of him, he may eat like any normal person.

Echolalia and echopraxia,—phenomena which are also dependent upon suggestibility,—are very frequent.

Like the excitement, the catatonic stupor is essentially free from emotion.

Excepting the very rare cases in which the disease terminates in recovery, the catatonic comes out of the agitation or the stupor with more or less intellectual enfeeblement. Often some of the catatonic phenomena persist, thus disclosing the origin of the dementia: stereotyped attitudes, mannerisms, verbigeration, etc.

The disease often develops in repeated acute attacks, each, whatever be its form, leaving behind it a more advanced degree of intellectual enfeeblement. Occasionally excitement and stupor alternate with each other with a certain regularity, simulating circular insanity.

C. DEMENTIA PRÆCOX OF THE DELUSIONAL FORM.

The *prodromata* consist, as in most of the psychoses, in change of disposition, insomnia, and impairment of the general health.

Schematically we may distinguish in the delusional form of dementia præcox two extreme types which are connected by a great many intermediate types: (1) The incoherent type; (2) The systematized type.

(1) **Dementia præcox with incoherent delirium.**—As this name indicates, the delusions and the numerous hallucinations which usually accompany them follow each other without any connection or governing idea, and are accepted by the patient as they appear, without any attempt on his part to find an explanation or an interpretation for them.

The general character of the delusions may be of three varieties:

(*a*) *Depressive variety:* Melancholy delusions associated with more or less marked depression and hallucinations of a painful nature. Often ideas of persecution are added to the melancholy ideas, and occasionally even predominate. It is not rare to encounter, especially at the beginning of the disease, attacks of very pronounced anxiety, suicidal ideas and attempts, or violent tendencies.

(*b*) *Maniacal variety:* Excitement, irritable mood,

morbid euphoria, ideas of grandeur occasionally associated with ideas of persecution, numerous hallucinations, erotic tendencies, and sometimes a certain degree of confusion.

(*c*) *Mixed variety:* The two preceding varieties are seldom met with in a state of purity. They are almost always combined with each other in one of two different manners:

(1) States of depression and those of excitement alternate without any order, and mutually replace each other every instant; in other words, the delirium is *polymorphous.*

(2) The disease develops in three stages:

I. Depression with melancholy delusions;

II. Excitement with expansive delusions;

III. Dementia.

Sometimes, as in catatonia, the disease assumes a circular type. The attacks repeat themselves, each consisting of a phase of depression and one of excitement and leaving behind a more and more pronounced state of dementia.

(2) **Dementia præcox with systematized delirium.**—This is the type to which the term *paranoid dementia* is most applicable. The systematization of the delusions is not equally accurate in all cases. Sometimes it is quite perfect, so that the disease resembles chronic delirium. In other cases the systematization is, on the contrary, so imperfect that one hesitates to classify the case among the precocious dements with systematized delirium. We have already seen that there exists between the two delusional forms of dementia præcox an infinity of intermediate forms.

Lucidity is preserved except during the transitory acute paroxysms, which are of frequent occurrence.

Hallucinations are frequent and affect all the senses.

Dementia supervenes after a variable period of time, which is in some cases very long. As it progresses the number of delusions becomes more and more limited, the hallucinations diminish in frequency and in intensity, and the reactions become weaker and weaker. Often the delirium is reduced to one or two morbid ideas, crystallized, so to speak, and constituting a "*paranoic residue*" which remains as the last vestige of the delirium originally characterizing the affection. Neologisms are frequent in the period of dementia.

The systematized delirium of dementia præcox is met with in three principal varieties:

(*a*) Persecutory delirium;

(*b*) Melancholic delirium;

(*c*) Megalomaniacal delirium.

(*a*) *Persecutory variety.*—The delusions may either appear *rapidly*, after a brief period of prodromata, or, on the contrary, they may develop *slowly*, accompanied at first by false interpretations and only later by hallucinations, as in chronic delirium, which we shall soon discuss.

The *psycho-sensory disorders*, hallucinations and illusions, are constant, of an unpleasant nature, and may affect any of the senses. Hallucinations of the genital sense are frequent.

The *reactions* consist in defensive acts; these reactions become gradually weaker as the dementia becomes established.

The dementia is often announced by a disaggregation of the personality, which gives rise to autochthonous

ideas, psychomotor hallucinations, the phenomena of stealing and of echo of the thoughts, etc. The time of its appearance is quite variable. Multiplicity of hallucinations usually indicates a grave prognosis and points to a rapid evolution towards intellectual enfeeblement.

It is not rare to note some degree of excitement appearing in paroxysmal attacks.

(*b*) *Melancholic variety.*—At the onset the melancholy ideas present no peculiarity. There are ideas of culpability, humility, ruin, etc., as in the melancholia of involution or in manic depressive insanity. Later they group themselves so as to form a *delusional system* which persists until the appearance of dementia.

All varieties of psycho-sensory disturbances are met with. The most important are psychomotor hallucinations, which are of quite frequent occurrence and indicate an already advanced psychic disaggregation.

Mystic ideas, ideas of possession, hypochondriacal ideas, and ideas of negation are frequent. Occasionally the symptoms present themselves in the form of the *syndrome of Cotard*

Attacks of anxiety, common in the beginning, as they are in all psychoses in which the depressed state predominates, become less and less frequent as the peculiar indifference of dementia præcox establishes itself, and the most frightful delusions often exist without any emotional reaction.

As in the preceding form, the intellectual enfeeblement often takes a long time to develop.

(*c*) *Megalomaniacal variety.*—The ideas of grandeur may either be primary or they may follow a very

brief period of ideas of persecution. They assume the most varied forms. The patients claim to be owners of immense fortunes, to be of illustrious descent, to possess remarkable talents, etc.

The hallucinations, which are less numerous and less constant in this than in the two preceding varieties, are always of an agreeable nature. The development of dementia is usually rapid.

(*d*) *Mixed varieties.*—The three preceding varieties may combine with each other so as to form four principal mixed types:

Type I: Period of melancholia; period of persecutory ideas; period of dementia.

Type II: Period of melancholia; period of persecutory ideas; period of grandiose ideas; period of dementia.

Type III: Period of melancholia; period of grandiose ideas; period of dementia.

Type IV: Period of persecutory ideas; period of grandiose ideas; period of dementia.

The different periods almost always overlap each other; melancholy ideas and ideas of persecution, for instance, often coexist.

DIAGNOSIS, PROGNOSIS, ETIOLOGY AND TREATMENT OF DEMENTIA PRÆCOX IN GENERAL.

Diagnosis.—It is to be based upon:

(*a*) The early appearance of the disorders of the affectivity and of the reactions;

(*b*) The delayed appearance of the intellectual disorders proper and their less marked intensity;

(*c*) The contrast existing in most cases between the delirium and the emotional tone;

(*d*) The purely automatic character of the excitement and of most of the reactions.

It is at the beginning that the greatest difficulty in diagnosis is encountered.

Mental confusion is to be distinguished by the much more pronounced disorientation, the much more *real* disorder, so to speak, of the consciousness, and by the symptoms of profound denutrition, sometimes of true cachexia, which are a constant manifestation of the disease.

General paresis is distinguished by the intellectual enfeeblement *en masse*, by its characteristic physical signs, and by its special etiology.

Delirium tremens, which may be simulated by the delirious outbreaks marking the onset of dementia præcox, is recognized by the pathognomonic character of the hallucinations, by the very pronounced allopsychic disorientation contrasting with the intact autopsychic orientation, and by the stigmata of alcoholism.

Systematized alcoholic delirium is often very difficult to distinguish from the delusional form of dementia præcox. Special attention must be paid to the etiology of the case and to the course of the disease, which is more favorable in alcoholic delirium. One should, however, be very guarded in rendering a diagnosis as well as a prognosis. In practice it is not rare to meet with inveterate alcoholics who present, after an attack of alcoholic systematized delirium, or even of delirium tremens, the symptoms of dementia præcox which subsequently run the classical course and to which the alcoholism has served merely as a portal of entry.

Prognosis.—This is always grave as the most usual outcome is dementia.

The intellectual enfeeblement is sometimes so slight, it is true, that it appears only as a scarcely perceptible sluggishness in the associations of ideas, a certain degree of moral indifference, and a tendency to intellectual fatigue.

A certain number of patients even form an exception to the general rule and recover completely. These cases are rare and are to be accepted only with extreme circumspection. Many of the apparently complete recoveries are but relative, and many recoveries considered permanent are but temporary; that is to say, they are mere *remissions*.

Indeed, remissions are frequent in dementia præcox. Their *duration* varies within very wide limits, from a few hours to several years. It is not exceptional for a precocious dement to come out of his first attack apparently unscathed, resume his normal life for five, six, or more years, suffer a recurrence, and end with dementia.

It is difficult, not to say impossible, to predict the remissions. The intense symptoms, such as marked excitement or extreme negativism, do not exclude the possibility. Moral indifference, on the contrary, scarcely recedes at all when it is clearly established, and does not permit of a *restitutio ad integrum*. Therefore simple dementia præcox, in which this symptom predominates, is not likely to be interrupted by remission in the great majority of cases.

Dementia præcox is not in itself a fatal disease. It may terminate fatally from the complications which it is sometimes accompanied by. The most formidable

of these is pulmonary tuberculosis, which is apt to attack patients in a state of depression or in catatonic stupor.

Etiology.—Statistics show that dementia præcox is chiefly a disease of young life. According to Kraepelin, in sixty per cent. of the cases it begins before the twenty-fifth year. It is rare after the age of thirty. It seems, however, difficult to state after which year it entirely ceases to appear. Certain psychoses are met with at an advanced age identical with it in symptoms and evolution. But such irregularities are not limited to psychiatry. Miliary tuberculosis is chiefly an affection of childhood and youth; it is, however, also met with in elderly people. Is it surprising, therefore, that a psychosis presenting all the features of dementia præcox should be found by way of exception in middle-aged or even in old individuals?

Heredity, though less frequent than in some other psychoses, exists nevertheless in more than half of the cases.

The severe infections, overwork, grief, and traumatisms are often found in the history of dementia præcox, but it seems impossible to determine the part played by these different factors. Von Muralt has observed several cases of catatonia following traumatism. I saw a case of catatonia in which the disorder was preceded by a very severe attack of scarlet fever; also a case of paranoid dementia in which the mental trouble was preceded by typhoid fever.

The *intimate nature* of the disease has so far escaped us, and we must be content for the present with hypotheses.

According to some authors dementia præcox results from an arrest of intellectual development: the brain ceases to acquire new impressions, being exhausted by previous efforts which were too great for the energy which it originally possessed. This explanation, assuming it to be correct, can account for but a small number of cases. In reality, in most of the patients we observe not a simple *statu quo*, but a true retrogression. Facts that have been acquired partly disappear, or at least cease to be co-ordinated so as to give rise to generalized ideas. Moreover, the disorders of affectivity and of the will cannot be accounted for by a simple arrest of development.

The most probable hypothesis is that of Kraepelin: dementia præcox is a disease of autointoxication. Many of the physical symptoms described above resemble the phenomena by which intoxications of exogenous or of endogenous origin are usually manifested: epileptiform attacks, hysteriform disturbances, disorders of the circulation and of the secretions, and alterations of the general nutrition.

Possibly the poison is the consequence of a disorder of secretion of the genital organs. The frequent appearance of the first symptoms at the age of puberty, or in the female at the time of her first childbirth, and the occasional development of the disease in interrupted stages, each corresponding to a period of pregnancy, are arguments in favor of this hypothesis.

Treatment.—This is reduced to the treatment of the principal symptoms by the usual methods. An effort should be made to combat stereotypy in all its forms by appropriate suggestion and by some occupation, when-

ever it is possible to make the patient do any work, which is quite frequently the case: the precocious dements constitute a great proportion of the asylum workers.

§ 2. Chronic Delirium.

Isolated by Magnan from the poorly defined group of persecutory deliria, chronic delirium presents a striking analogy to certain forms of dementia præcox, which fact has led Kraepelin to include it under the heading of paranoid dementia. Conforming to French usage, I shall describe it as a separate morbid entity, which appears to me to be justifiable, at least provisionally, in view of the following considerations:

(1) Chronic delirium appears at an age when dementia præcox is already rare,—after thirty years in the majority of cases;

(2) It presents a perfect systematization and a regular evolution, which are unusual in dementia præcox;

(3) The dementia does not appear for many years. Sometimes it does not appear at all, even when the patient has reached an advanced age (Falret).

The name "dementia præcox" would scracely be applicable to an affection usually appearing at an adult age, and in which intellectual enfeeblement does not supervene until long after the onset,—twenty years or more. Though we may consider chronic delirium as very closely related to dementia præcox, it would seem that more facts are necessary to establish the identity of the two diseases.

The evolution of chronic delirium occurs in four periods, which we shall consider hastily, for the symp-

toms encountered in each of these periods have already been studied by us, and it is but the special grouping of these symptoms that gives the disease its characteristic aspect.

First period: incubation.—This period is always a prolonged one. The personality of the patient undergoes a slow and insensible, though profound, transformation. The symptoms observed at the beginning present no definite character. They consist in an *irritability* and a singular *pessimism*, with which are often associated *hypochondriacal ideas*.

Little by little these pathological phenomena become more and more marked and develop into ideas of persecution. Suspiciousness and uneasiness appear first, followed later by *delusional interpretations:* the patient thinks himself watched as he walks in the street, or discovers a hidden meaning in a conversation. Illusions of all the senses, but especially those of hearing and of smell, gradually appear as the affection reaches the second period.

Second period: systematization of the delusions; appearance of hallucinations.—Hallucinations are constant and affect all of the senses *except vision*. They are always of a painful character. The first to appear are the *phonemes* (verbal auditory hallucinations), which, vague at the beginning, assume after a certain time remarkable distinctness. They are followed by the appearance of hallucinations of taste, smell, general sensibility, including the genital sense, and, later on, by motor hallucinations also.

Visual hallucinations are extremely rare, if ever present at all. On the other hand, illusions of sight are

as frequent as those of the other senses, often taking the form of *false recognitions*.

Little by little the delusions group themselves and become systematized. The hallucinations are interpreted and explained. The patient recognizes the voices, discovers his persecutors, the methods they make use of, and the aims they pursue. As he is perfectly convinced of the reality of his delusions, he reacts, seeking to protect himself against his imaginary enemies, and to find justice. The means to which he may resort are infinitely varied: protests before authorities and before the public, frequent changing of residence, and too frequently even assaults and murder.

As the disease advances, more and more evident signs of psychic disaggregation appear: echo of the thoughts, autochthonous ideas, numerous motor hallucinations, etc.

Third period: ideas of grandeur. — Some authors look upon the ideas of grandeur as a logical sequence of those of persecution, resulting from the following line of reasoning, which the patient pursues more or less consciously: "They persecute me so unmercifully and with such stubbornness because they are afraid of me or jealous of me." This explanation is perhaps applicable to a small number of cases, but not generally so.

The real cause of the ideas of grandeur is invariably the intellectual enfeeblement which begins to manifest itself at this period.

They assume all possible forms: ideas of wealth, of power, or of transformation of the personality. One patient was God and his persecutor was the devil.

Another reigned over the planet Mars, and once decided to destroy the earth by means of aeroliths.

Fourth period: dementia.—Intellectual enfeeblement here becomes clearly apparent. It is very similar to, if not identical with, that of dementia præcox, and this is undoubtedly strong evidence of a close relationship existing between the two diseases.

Almost always some stereotyped delusions persist as a last remnant of the former delirium.

The *evolution* of the disease is very slow, often requiring twenty or thirty years for its completion.

The *prognosis* is fatal from the psychical standpoint. But the morbid process does not affect the organic functions, and the patients may live to an old age.

Chronic delirium in its typical form, as described by Magnan, is a very rare disease. *Heredity* is here found as frequently as in most other psychoses, including dementia præcox. But the predisposition is often entirely latent, the disease often developing in subjects previously of normal intelligence. Perhaps it is to this fact that the perfect systematization of the delirium and its extremely slow development are to be attributed.

May we assume that this affection, like dementia præcox, is due to an autointoxication? This is a question which the future alone can answer.

The *treatment* is limited to a careful supervision which in most cases cannot be carried out outside of an asylum.

CHAPTER IX.

GENERAL PARESIS.

Synonyms.—Chronic arachnitis and chronic meningitis (Bayle). Incomplete general paralysis (Delaye). General paralysis of the insane or chronic diffuse periencephalo-meningitis (Calmiel). Paralytic insanity (Parchappe). Progressive general paralysis (Lunier, Sadras). Paralytic dementia (Baillarger). Chronic diffuse interstitial encephalitis (Magnan). *In German:* Progressive allgemeine Paralyse. In general it is convenient to employ the Latin term *dementia paralytica.*

The earliest mention of the somatic and psychical disorders corresponding to general paralysis dates back to 1798, when Harlan, pharmacist at the Bedlam Hospital, described in a few lines and with remarkable precision the principal features of the disease.

It was only in 1822, thanks to the memorable work of Bayle, that general paralysis gained a footing in classical psychiatry. The history of this disease is a subject much too vast for the limits of this work. It has been quite recently treated by Vignaud [1] in his inaugural thesis, which contains, in addition to a good bibliography, a very clear exposition of opinions and theories advanced on the question of general paralysis from the point of view of its pathogenesis as

[1] *Histoire de la paralysie générale.* Paris. Thèse.

well as from that of its etiology and anatomical lesions.[1]

Prodromal period.—It is marked (*a*) by changes of the affectivity and of the character; (*b*) by phenomena of neurasthenia and psychasthenia.

(*a*) The mood becomes either irritable and changeable, with sudden alternations of joy and sorrow, kindness and anger, discouragement and optimism; or gloomy, and marked by pessimism and by a *tædium vitæ* which may lead the patient to attempts at suicide. Often the patient is conscious of being stricken with a grave disease and has dark presentiments for the future.

(*b*) The *neurasthenic* and *psychasthenic* symptoms are usually very pronounced: a feeling of general lassitude, fatigue, muscular weakness, diffuse neuralgic pains, headache, a sort of grinding sensation felt especially in the head, and other peculiar sensations which the patient is unable to describe clearly: it may seem to him that his head is empty, that his brain is falling to pieces, etc.

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[1] Monographs on general paresis: Lasègue. *De la paralysie générale progressive.* Th. d'agrég. Paris, 1853; also *Leçons sur la paralysie générale*, 1883.—Falret. *Recherches sur la folie paralytique et les diverses paralysies.* Paris, 1853.—Voisin. *Traité de la paralysie générale.* 1879.—Baillarger. *Théorie de la paralysie générale.* Ann. méd. psych., 1883.—Mendel. *Die progressive allgemeine Paralyse der Irren*, 1880.—Mairet et Vires. *De la paralysie générale.* Etiologie. Pathogénie. Traitement. 1893.—Magnan et Sérieux. *La paralysie générale* (collection Léauté), 1894.—Coulon. *Considérations sur la nature de la paralysie générale.* —Klippel. *Les paralysies générales.* L'œuvre médico-chirurgicale, 1898.

These symptoms are, however, not identical with those of true neurasthenia. The following are, according to Ballet, the most important points of difference:

"(1) The stigmata, that is to say the permanent signs of neurasthenia (helmet sensation, pain in the spine), are usually absent.

"(2) Neuralgic pains occupy an important place in the clinical picture. These pains (excluding the lightning or lancinating pains dependent upon the spinal lesions of general paresis) are disseminated, essentially mobile, varying from day to day. The patients often speak of them as '*pains that are peculiar and unusual.*'

"(3) From one moment to another sudden changes are produced in the state of the patient. . . . It is surprising to see the neurasthenic paretic, who but a short time before complained of severe suffering and ill health, forget his pains under the influence of some incident or conversation in which he is interested and in which he takes an active part. These momentary changes, appearing at the instance of chance occurrences, may manifest themselves in a more lasting manner on instituting some treatment, though insignificant. The patient, hitherto excessively discouraged and gloomy, speaks with joy of his cure; his satisfaction is exuberant and out of proportion, as was his despair shortly before."

Often some transient phenomenon, exceptional or unknown in neurasthenia, alarms the physician: slight seizures, transitory strabismus with diplopia, slightly marked momentary disorders of speech.

This period of prodromata is seldom absent. It is often very long, lasting several months or even years.

§ 1. Essential Symptoms.

It will be necessary to consider these apart from the accessory symptoms, by the presence of which they are often masked.

The essential symptoms are:

(A) Intellectual enfeeblement;

(B) Disorders of motility;

(C) Pupillary disturbances;

(D) Changes in the general nutrition.

(A) **Intellectual enfeeblement.**—It presents two fundamental characteristics:

(1) It affects all the psychic functions in their *ensemble;*

(2) It is progressive, and even rapidly so. This latter characteristic distinguishes paralytic dementia from senile dementia, the development of which is much slower.

Let us analyze rapidly the elements constituting this intellectual enfeeblement.

(*a*) *Memory.*—It is profoundly affected from the very beginning. The amnesia is both *anterograde,* by default of fixation, and *retrograde,* by destruction of impressions. It is *essentially incurable.*

The disappearance of old impressions probably follows the law of retrogression; but its course is so rapid that it is difficult to demonstrate this fact. The impressions of youth and childhood become very rapidly effaced, so that after a relatively short period only a few confused and distorted recollections remain in the mind of the patient, and these are only with great difficulty recovered from the general wreck.

(*b*) *Consciousness and perception.* — Their disorders are manifested by:

(I) A more or less complete loss of *orientation* in all its forms;

(II) A more or less confused perception of the external world.

The clouding of consciousness and the confusion attain in the terminal period, and in certain forms in the beginning, an extreme intensity.

(*c*) *Attention.*—It is both, difficult to obtain and difficult to fix the attention.

(*d*) *Associations of ideas.*—These are always sluggish and easily modifiable by external impressions. These disorders render it impossible for the patient to perform somewhat complicated intellectual operations, or even the simplest ones in advanced cases of paresis.

(*e*) *Affectivity.* — Its changes are characterized by morbid *indifference* and *irritability*, associated in the manner already studied. The one and the other are very marked. The general paretic takes no interest in his own business affairs or in the welfare of his relatives. Grave occurrences fail to impress him. On the other hand, he is subject to fits of terrible anger on the slightest provocation.

The *moral sense* and the *regard for conventionalities* disappear entirely. The patient commits the most ridiculous and most revolting acts with perfect serenity and is astonished when his liberty of action is interfered with.

(*f*) *Judgment.*—Its disorder finds expression in the patient's total lack of insight into his condition. Together with the amnesia, it explains the inconsist-

encies of the patient's conduct and speech; he is unable to appreciate the most flagrant contradictions. To a given question the paretic gives the first answer that enters his mind, whether it happens to be false or correct, absurd or plausible.

(*g*) *Reactions.* — As might be expected, they are always *impulsive.* The reflections, that is to say the series of associations preceding the act, become more and more reduced. As the patient sees what he wants he immediately takes it. He wants an object that he sees exposed for sale in a shop,—he takes it and carries it off without taking the trouble to pay for it. A paralytic leaning over the parapet of a bridge drops his cane. To recover it, reasoning that a straight line is the shortest distance between two points, he jumps after it into the water. Stereotyped movements (movements of sucking, grinding the teeth, etc.) and negativism are frequent. Cataleptoid attitudes are occasionally seen.

(B) **Motor disturbances.** — The fundamental motor disturbances, the only ones that need occupy us in this connection, are three in number:

(*a*) Progressive muscular enfeeblement; (*b*) Tremors; (*c*) Motor incoordination.

(*a*) *Muscular enfeeblement.*—It is most marked in the latter periods of the affection, when it accompanies the general cachexia. It involves all the muscles and is associated with a more or less pronounced atrophy so that there is more or less complete disability.

(*b*) *Tremors.*—Unlike the muscular enfeeblement, these constitute an early symptom. They are of two forms: fibrillary tremors and tremors *en masse.*

(I) The fibrillary tremors consist in rapidly repeated contractions of very small groups of muscular fibers. It is a sort of twitching. It is observed chiefly in the tongue and in the peribuccal muscles.

(II) Tremors *en masse* usually appear as coarse oscillations irregular in frequency and in amplitude. They become evident on voluntary movements and form a sort of point of transition between true tremors and muscular ataxia. They are seen especially in the upper extremities and in the tongue. The tongue projected from the mouth executes to-and-fro movements very aptly called by Magnan "trombone movements."

(*c*) *Motor incoordination.*—This first becomes evident in the most delicate movements and manifests itself early by impairment of the *speech* and of the *handwriting.*

(*α*) The *impairment of speech,* clearly apparent in advanced stages, is sometimes difficult to notice at the beginning and only becomes evident on resorting to special tests, such as prolonged reading in a loud voice or the pronunciation of special words known as test-words: Methodist Episcopal, fourth cavalry brigade, national intelligence, etc.

Sometimes the impairment of speech becomes less evident or even disappears temporarily during excitement. Often it becomes accentuated after apoplectiform or epileptiform attacks.

It is of various types, the principal of which are the following:

I. Drawling, tremulous, indistinct speech;

II. Scanning speech analogous to that of disseminated sclerosis;

III. Hesitating speech: the patient stops in the middle of a word and seems to hesitate before finishing it;

IV. Omission of one or of several syllables: the patient pronounces, for instance, "Methist Pispal" instead of Methodist Episcopal;

V. Reduplication of one or of several syllables, as constitititutional;

VI. Interchanging of syllables: "constutitional."

These types may be combined so as to form mixed types of infinite varieties.

(β) The *handwriting* is characterized by its irregular appearance, and by the coarse tremors seen in the strokes. These motor disorders are always associated with phenomena of intellectual origin: omissions or, on the contrary, repetitions of letters, syllables, or words, numerous glaring orthographical errors. All these features impart to the *paretic handwriting* its characteristic aspect.

Usually the patient is totally unconscious of these symptoms. If accidentally he notices them, he is neither surprised nor alarmed. The explanations which he gives are childish: he does not speak well because he has lost a tooth, or he writes with difficulty because his hands are cold.

Slight in the beginning, the impediment of speech and the impairment of handwriting become progressively aggravated, so that in the terminal stage of the disease the writing becomes a shapeless scribbling and the speech an unintelligible stammering.

At the end of the disease it is almost constant to note a *disturbance of deglutition* caused by paresis and

incoordination of the pharyngeal muscles, which may entail death by suffocation.

(C) **Pupillary disorders.**—Appearing sometimes very early, their importance is so great that in their absence the diagnosis should always be reserved.[1]

They are dependent upon an *internal ophthalmoplegia of gradual and progressive development* (Baillet and Bloch), which is manifested by changes in the shape, size, and reactions of the pupil.

(*a*) *Changes in the shape.*—The pupil loses its circular shape and becomes oval or irregular. This symptom seems to be frequent, but of its diagnostic value little is known.

(*b*) *Changes in size.*—These are of three kinds:

(I) *Myosis*, at times so marked that the pupils are reduced to pin-hole size;

(II) *Mydriasis*, also very well marked in certain cases;

(III) *Inequality* of the pupils, which may be produced by three different mechanisms:

(α) One pupil is normal, the other myotic or mydriatic;

(β) One pupil is mydriatic, the other myotic;

(γ) Both pupils are mydriatic or myotic, but are unequally dilated or contracted.

It is important, in order to make a satisfactory examination of the pupils, to place the patient in such a light that both eyes receive an equal amount of illu-

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[1] Mignot. *Contribution à l'étude des troubles pupillaires dans quelques maladies mentales.* Thèse de Paris, 1900.

mination. It is also important to vary the intensity of illumination, because an inequality that appears doubtful in a strong light may become very evident in a weaker light, and vice versa.

Pupillary inequality is sometimes congenital. Moreover, it is encountered in many affections other than general paresis: dementia præcox, compression of the sympathetic nerve, etc.; therefore it does not by any means constitute a pathognomonic sign.

(*c*) *Changes in the reflexes.*—These consist in changes of the *light reflex*, or of the *accommodation reflex*, or of both. They are either binocular or monocular.

Disorders of the pupillary reactions may be associated as in the Argyll-Robertson type: abolition of the light reflex with persistence of the accommodation reflex. This combination is, however, considerably less frequent in paresis than it is in tabes.

At the beginning of the disease the reactions are not completely abolished, but are simply paretic.

(D) **Disorders of general nutrition.**—Though constant and very important they have thus far received but little attention. Clinically we find changes in the weight and in the urinary secretion.

The onset is almost always marked by a considerable loss of weight. Later the weight varies with the clinical form.

In the excited and in the depressed forms of rapid evolution the loss of weight is marked and progressive, and the patient rapidly becomes cachectic.

In the expansive or demented forms the weight often rises after the initial fall, the patients then becoming corpulent and remaining so until the terminal stage,

when the weight may fall suddenly and continue to drop as marasmus is established.

Organic crises may be noted in the course of the disease (Arnaud); they consist in a transitory but considerable loss of weight, the cause of which is unknown.

The changes in the urinary secretion indicate a general sluggishness of nutrition. They have been especially studied in connection with the second period of the disease. The principal ones are polyuria, low specific gravity of the urine, slight albuminuria, a very noticeable diminution of urea and of phosphates, and an increase of chlorides.[1]

A study of the blood changes might also be of great interest. The work already done along this line is unfortunately very little and inconclusive. Capps[2] found a slight diminution of hemoglobin and of the red blood-cells.

§ 2. Inconstant Symptoms.

Many symptoms though not constant are, however, frequent and important.

This group comprises:

(A) Intellectual disorders;

(B) Motor disorders;

(C) Disorders of the reflexes;

(D) Disorders of sensation;

(E) Trophic disorders;

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[1] Klippel et Serveaux. *Contribution à l'étude de l'urine dans la paralysie générale.* Congrès des médecins aliénistes et neurologistes, 1895.

[2] *American Journ. of the Med. Sc.*, 1896, No. 290.

(F) Visceral disorders;

(G) Epileptiform and apoplectiform seizures.

(A) **Intellectual disorders.**—The principal are delusions and hallucinations.

(*a*) The *delusions* of the general paretic are of the demented type; that is to say, they are *absurd, mobile, multiple,* and *contradictory.*

They assume all forms:

(*α*) *Ideas of grandeur:* the patient is immensely rich; millions are not adequate, the general paretic counts his riches by trillions; he governs the forces of nature, resuscitates the dead, is the incarnation of all the great men of the present or of the future, destroys and reconstructs the universe by a single gesture, etc.

(*β*) *Melancholy ideas:* ideas of culpability: one patient accused himself of having hastened the end of the world by ten thousand centuries; hypochondriacal ideas: another patient refused to eat because he had "a bicycle manufactory in the throat"; ideas of negation: the organs are liquefied or replaced by air, the body is nothing but a putrefied corpse; ideas of ruin analogous to those of melancholia.

(*γ*) *Persecutory ideas:* they are either primary or secondary to ideas of grandeur. In the latter case the patients complain that they have been robbed of their immense fortune, that they are not treated with the respect to which they are entitled, that they are unjustly detained in the asylum, etc. Occasionally at the beginning persecutory ideas become systematized,[1] but always imperfectly. A close examination always reveals

[1] Magnan. *Leçons cliniques.*

certain flagrant contradictions by which the intellectual enfeeblement manifests itself.

(*b*) The frequency of *hallucinations* in general paresis is a much disputed question. Some authors believe that they are almost constant (Christian and Ritti), or at least frequent (Wernicke); others claim that they are rare (Magnan, Dagonet, Krafft-Ebing). The latter opinion is the more widely accepted one and I believe the more correct one.

The hallucinations may affect any of the senses, including the muscular sense.

Illusions are much more frequent than hallucinations.

Psycho-sensory disorders are encountered chiefly in the excited form of general paresis, in which they are associated with incoherent delusions.

The systematized persecutory delusions which are occasionally met with are apt to be associated with auditory hallucinations.

As in all cases of pronounced dementia, the reactions and the emotional tone do not always harmonize with the delusions. A general paretic who believes himself to be dead may eat heartily and remain otherwise unaffected.

(B) **Motor disorders.**—The most frequent are the *phenomena of paralysis and of paresis*, which may assume the most varied types: monoplegia, hemiplegia, facial paralysis. The latter, generally slight, constitutes a very frequent and often an early symptom.

The paralysis is either flaccid or associated with contractures.

A certain degree of motor aphasia is often observed.

The paralyses in many cases follow the seizures and are usually transitory.

Convulsions will be considered in connection with the epileptiform seizures.

Sometimes choreiform movements are observed in general paresis (Vallon and Marie), also tremors analogous to those of multiple sclerosis and of athetosis.

(C) **Disorders of the reflexes.**—The best known and the most important are the changes in the *patellar reflex.*

There is nothing constant about these, as they vary not only in different patients but also in the same patient at different times.

The patellar reflexes may be *normal, exaggerated, diminished,* or *abolished.* Sometimes they are *unequal* on the two sides: one may be exaggerated, the other abolished.

Complete abolition is seen in the tabetic form, exaggeration in the spastic form.

Other tendon reflexes have been but little studied.

As to cutaneous reflexes, they are sometimes exaggerated, more often abolished.

(D) **Disorders of sensation.**—These have been well described by Marandon de Montyel, from whom the following facts have been borrowed:

(*a*) *Sensibility to pain* is often diminished, less frequently abolished, rarely exaggerated. Some patients present retardation of the perception of pain. Disorders of the pain sensibility often persist during remissions.

(*b*) *Tactile sensibility* is usually normal. However there may be hyperæsthesia, hypoæsthesia, and even

complete anæsthesia. These disorders disappear during remissions.

(*c*) *Special senses:* disorders of hearing (more or less marked deafness, tinnitus, etc.) are not infrequent, but by reason of their common occurrence in other forms of insanity and in normal individuals they are of but slight importance.

Amblyopia or even complete *amaurosis* is sometimes encountered. In certain cases it depends upon an atrophy of the optic nerve.

The senses of taste and smell are often greatly impaired.

Disorders of the generative function are quite frequent and vary with the stage of the disease.

The onset is often marked by *genital excitation*, which, associated with the mental enfeeblement, may lead to grave consequences. Later this excitation is replaced by absolute *impotence.*

(E) **Trophic disorders.**—These affect all the tissues.

Osseous tissue: abnormal fragility of the bones, fractures caused by insignificant traumatisms or even occurring spontaneously.

Connective and cartilaginous tissues: the trophic disorders are here chiefly manifested by *hematoma auris*,[1] which consists in an extravasation of blood into the tissues of the auricle.

The exact seat of the extravasation in hæmatoma auris is still a disputed question. Some are of the opinion that it is in the subcutaneous tissues, others

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[1] Gatian de Clérambault. *Contribution à l'étude de l'othématome.* Thèse de Paris, 1899.

believe that it is between the cartilage and the perichondrium, and still others think that it is within the cartilage itself.

The action of the trophic disorder is usually favored by a traumatism. It must not be forgotten that the great majority of hæmotomata auris are on the left side and that when one receives a blow it is usually just on that side. It is possible to reduce considerably the number of hæmotomata in asylums by holding the attendants directly responsible for their occurrence.

Skin.—Deformity and grooving of the nails,[1] diverse eruptions, herpes. The latter lesion indicates involvement of the cord in the pathological process; it may constitute one of the first symptoms of the disease.

The most frequent and most grave cutaneous disturbances are the *pressure-sores.*

Whether bilateral or unilateral they develop chiefly at the points bearing the weight of the body while the patient is in bed: hence the sacral, gluteal, and trochanteric bed-sores. The sacral bed-sore is quite often median.

Their *dimensions* vary from small sores of the size of a dime to those exceeding the size of the palm of the hand.

Their *depth* also varies in different cases. Some remain superficial, while others destroy the skin, subcutaneous tissue, and muscles, and expose the bone.

Their *course* is usually progressive; that is to say, they increase in extent and in depth. Sometimes they heal under the influence of appropriate treatment.

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[1] Trèves. *Su alcani alteretzioni distrophiche delle unghi.* Rivist. di clin. medic., 1899, No. 6.

Muscles.—Localized muscular atrophy is rare. It affects different groups of muscles and may have one of two origins, resulting either from a degeneration of the white columns of the cord, which, in its turn, is caused by cerebral lesions (Grellière),[1] or from a primary degeneration of the cells in the anterior horns (Joffroy).[2]

(F) **Visceral disorders.**—These are dependent either upon the disease itself or upon a complication. It is unfortunately difficult to determine in any given case what the real cause is.

(*a*) *Digestive apparatus:* its functions become disturbed chiefly in the terminal stage of all forms, and early in the depressed and excited forms: anorexia, vomiting, constipation, or intractable diarrhœa. In the expansive form one often notes a veritable boulimia.

(*b*) *Cardio-vascular apparatus:* Evidences of atheroma, myocarditis, rapid and feeble pulse in the terminal cachexia. Aortic insufficiency is not rare and is probably due to syphilis, which is so frequent in the history of general paretics.

(*c*) *Kidneys:* Slight albuminuria is frequent. This with the low specific gravity of the urine is an indication of a certain degree of renal insufficiency.

(*d*) *Liver:* Sometimes hypertrophied, more rarely atrophied with phenomena of cirrhosis. The ascites that usually accompanies atrophic cirrhosis of the liver

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[1] Grellière. *Atrophie musculaire dans la paralysie générale des aliénés.* Paris, 1875.

[2] Joffroy *Contribution à l'anatomie pathologique de la paralysie générale.* Congrès de Médecine mentale, 1892.

is usually absent in the cirrhosis of general paresis (Klippel).

(*e*) *Respiratory apparatus:* Congestion, bronchopneumonia, and splenization are frequent complications of the last stage. Pulmonary tuberculosis is, on the contrary, quite rare and usually runs a slow course (Bergonier, Klippel).

(G) **Seizures.**[1]—These are frequent, occurring at all periods of the disease and often marking the onset. They may be fatal. According to Arnaud death from a seizure is the natural mode of termination of general paresis. They are often accompanied by fever.

On recovery from these seizures, which is most usual, symptoms of apoplexy (paralysis, aphasia) often appear; they are almost always transitory, there being no gross lesions of the corresponding projection-center. The seizures are generally followed by an aggravation of the fundamental psychical and physical disorders.

The seizures are of two kinds: *apoplectiform* or *epileptiform.*

The former are characterized by a more or less complete loss of consciousness associated with complete flaccidity of the limbs.

The latter consist in *generalized* or *localized* convulsions. The generalized convulsions sometimes so closely simulate epilepsy as to be mistaken for it. The localized convulsions assume the aspect of Jacksonian epilepsy (monocrural, monobrachial, facial). The loss of con-

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[1] Pierret. *Les attaques épileptiformes et apoplectiformes dans la paralysie générale.* Progrès médical, 1897.—Arnaud. *Arch. de neurol.*, 1897.—Bonnat. Thèse de Paris, 1900.

sciousness accompanying the partial convulsions is either complete or reduced to a slight degree of obnubilation, as in the case of the sympathetic convulsions of apoplexy or of cerebral tumor.

§ 3. Forms. Evolution. Diagnosis.

The principal forms are:

(A) The demented form;

(B) The expansive form;

(C) The excited form;

(D) The melancholic form;

(E) The tabetic form.

Some authors have described also a *spastic form*, characterized by exaggeration of the tendon reflexes and by muscular contractures.

A. **The demented form.**—This form constitutes from a psychical standpoint of view the pure type of general paresis, free from accessory symptoms.

The *onset* is marked chiefly by *indifference* and *loss of memory*.

When the disease is completely established the symptoms are those of profound mental enfeeblement, which we have already described, associated with the characteristic physical disorders.

This form is frequent; its *evolution* is rapid and not interrupted by remissions.

B. **The expansive form.**—Also frequent.

Special features:

Euphoria, often very marked.

Effusions of benevolence, interrupted by transitory outbreaks of anger.

Ideas of self-satisfaction and ideas of grandeur (hallucinations are very rare).

Excitement, loquaciousness.

The disease begins with a morbid activity and slight excitement, which, associated with disorders of judgment, often lead the patient to ruinous deeds, misdemeanors, and even crimes. Unnecessary purchases, absurd enterprises, violations of decency, rape, and swindling are common. It is this stage that constitutes chiefly the medico-legal period of general paresis.

The *evolution* of this form is slow. The duration of the illness quite frequently exceeds three years. Remissions are frequent.

C. **The excited form.** — This sometimes begins with a state of excitement and confusion resembling mania or acute confusional insanity.

Its special features are:

Complete disorientation in all its forms;

Incoherent delusions, usually associated with numerous hallucinations;

Violent reactions with very marked motor excitement;

Profound disturbances of the general nutrition.

It may run one of two possible *courses:* the excitement may persist and death supervene within a few months or even weeks (galloping general paresis); or the excitement may subside and the disease may pass into one of the other forms, the demented, expansive, or melancholic.

D. **Melancholic form.**—The onset is marked by a state of depression or of moral pain, so that the trouble may be mistaken for affective melancholia or for an attack of manic depressive insanity.

The special features of this form are:

Psychic inhibition;

Moral pain;

Melancholic delusions;

Attempts at suicide that are frequently childish and ineffective;

Peripheral vaso-constriction, impairment of the general nutrition.

Refusal of food.

All these disorders, however, harmonize less perfectly with each other than in the other melancholic affections. I shall return to this point in connection with the diagnosis.

The *evolution* is very rapid. Death supervenes early, and is due to the cachexia or to some complication (infections favored by the impaired nutrition and the diminished resistance of the tissues).

E. **Tabetic form.** — This form has at the beginning the aspect of ordinary tabes. The signs of general paresis appear much later.

Its special features are:

Lightning, lancinating pains; girdle sensation;

Marked ataxic symptoms;

Abolition of patellar reflexes;

Romberg's symptom;

Argyll-Robertson pupil.

The symptomatology of this form of general paresis is, however, not identical with that of true tabes. The pains are less severe, the urinary troubles less frequent (Joffroy). A curious fact difficult to explain is that as the symptoms of general paresis become more pronounced, those of tabes (at least the subjective symptoms) seem to disappear.

The different forms above mentioned may follow each other, or they may be associated in the most varied ways.

Course and prognosis.—The course is progressive, and has been schematically divided into three stages, not including the prodromal stage: (1) stage of onset; (2) stage of complete development; (3) stage of cachexia.

The last stage, the only one which has so far remained unquestioned, is characterized by complete physical and psychical dilapidation, by the appearance of pressure-sores, and by entire loss of sphincter control.

The *prognosis* is fatal. Death occurs from cachexia, or from some complication, or as the result of an apoplectiform or epileptiform seizure.

The average *duration* of the disease is from two to three years. There is, however, no fixed rule with regard to this. In exceptional cases the disease lasts but several months or even weeks (galloping general paresis); in other cases, on the contrary, it is prolonged for ten or more years.

The progress of the disease may be interrupted by *remissions*. Rarely, except at the beginning, are the remissions complete. Almost always a certain degree of mental enfeeblement or at least of psychic asthenia, and the persistence of the physical signs exclude all thought of true recovery.

Diagnosis.—The fundamental element of the diagnosis is the association of the progressive intellectual enfeeblement *en masse* with the characteristic physical signs.

General paresis may, especially at the beginning, when neither the intellectual enfeeblement nor the

somatic signs are very marked, simulate many other psychoses.

Lumbar puncture is here of great service. An increase in the number of leucocytes in the cephalo-rachidian fluid is an almost constant phenomenon of general paresis, especially at the onset. Though it never appears in the absence of meningeal lesions, its presence eliminates the vesanias as well as the dementias dependent upon central organic lesions without meningeal involvement, such as senile dementia, for instance, (Dupré).[1]

Mania.[2]—Flight of ideas and continued excitement are characteristic. Lucidity is usually preserved or, at any rate, much less affected than in general paresis; delusions are less frequent and less absurd.

Affective melancholia; depressed form of manic depressive insanity.—The essential symptoms (moral pain or psychic inhibition) are much more stable. The delusions are less ridiculous and less incoherent, and are much more in harmony with the state of the affectivity and with the reactions.

The general paretic may show almost no moral pain

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[1] Levi Sirugue. Gazette des hôpitaux, 1900, No. 111.—Dupré et Devaux. *Cytodiagnostic céphalo-rachidien dans les maladies mentales.* Bulletins et mémoires de la Société médicale des hôpitaux de Paris, June 7, 1901.—Joffroy et Mercier. *De l'utilité de la ponction lombaire pour le diagnostic dans la paralysie générale.* Congrès des médecins aliénistes et neurologistes, 12e Session, Grenoble, 1902.

[2] Bonfigli. *Contribuzione allo studio delle diagnosi fra paralizi progressive e folia doppia forma.* Rivista sperimentale di neuropath. et di psych., 1800.—Sprengler. *Zur Frühdiagnose und Therapie der progressiven Paralyse.* Allg. Zeitschr. f. Psychiat., 1901.

or inhibition in spite of the most frightful delusions. A true case of melancholia or of manic depressive insanity never presents this striking contradiction.

Acute confusional insanity.—The onset is much more sudden, incoherence and disorientation are very marked, but there is absence of true intellectual enfeeblement.

Dementia præcox.[1]—The elective character of the intellectual enfeeblement with relative conservation of memory and lucidity. Catatonic phenomena more constant, more numerous, and more marked. Difference in the etiology (age of the patient).

Delirium tremens.—This may be simulated by the attacks of hallucinatory delirium which are apt to appear in the course of general paresis. Delirium tremens is recognized by the intact autopsychic orientation contrasting with complete allopsychic disorientation, by the different physical signs, and finally by the sudden onset which is never seen in general paresis.

It should be borne in mind that alcoholism and all its manifestations may be associated with general paresis. In all such cases it is necessary to wait for the disappearance of the acute symptoms before the diagnosis can be established.

Alcoholic dementia.—It is not progressive unless the cause,—alcoholic intoxication,—continues to act.

Saturnine encephalopathy.—This disease shows a fixed and constant localization of the disorders of motion and sensation, which is seldom encountered in general paresis. Moreover, when further absorption of lead

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[1] Toulouse et Marchand. *Démence précoce et paralysie générale.* Revue de psychiat., 1901, No. 1.

is prevented, the symptoms simulating general paresis become less marked or at least cease to progress.[1]

PATHOLOGICAL ANATOMY.—ETIOLOGY.—TREATMENT.

We shall describe separately the lesions of the encephalon, of the spinal cord, of the peripheral nerves, and of the viscera.

A. **Encephalon.** — *Dura mater:* often congested, presenting occasionally the lesions of hemorrhagic pachymeningitis.

Pia-arachnoid and brain.

(*a*) Macroscopic lesions.

(1) *General atrophy of the brain,* most marked in the frontal and parietal lobes, and evidenced by:

α. Flattening of the convolutions;

β. Thinning of the cortex;

γ. Diminution of the weight, most marked in cases of slow evolution, often very slight or even absent in cases of general paresis of a very rapid course.

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[1] By the term *general pseudo-paresis* have been designated affections resulting from various causes and simulating more or less closely true general paresis. Thus syphilitic, alcoholic, and saturnine pseudo-pareses have been described. This term is a useless one and its use has been abandoned by many authors. It seems that cases often described as those of general pseudo-paresis may be cases either of true general paresis brought on by syphilis, alcoholism, lead-poisoning, etc., or of cerebral affections of syphilitic, alcoholic, or saturnine origin, and of a symptomatology analogous to, but not identical with, true general paresis. What Magnan said with especial reference to *alcoholic* pseudo-paresis holds good, I think, for the entire conception of pseudo-paresis: It is not borne out by clinical experience; moreover, chronic alcoholism usually leads to dementia, and sometimes to true general paresis."

(2) *Thickening of the pia mater and adhesions between it and the cerebral substance:* stripping off the pia causes a tearing away of the cerebral substance, especially at the frontal and parietal lobes.

(3) *Arteritis of the large and medium-sized cerebral vessels:* this lesion is not a constant one.

(*b*) Microscopic lesions.[1]

(1) *Cells.*—Their changes are:

α. In *number* and *arrangement:* many cells disappear; the different layers are more difficult to distinguish than in the normal state and appear to be confounded;

β. In *shape:* the processes disappear, the angles become blunted, the cell-body tends to reduce itself to a small granular and pigmented mass;

γ. In *structure:* chromatolysis—that is, alteration and destruction of Nissl's corpuscles—which causes the cell to assume a hyaline aspect when the chromatic substance is destroyed, or to present a uniform coloration if stained by the aniline pigments when this substance, reduced to a fine powder, is disseminated through the entire cell.

(2) *Nerve-fibers:* many are destroyed, which fact can be demonstrated by Pal's or Weigert's hæmatoxylin stain. The degeneration affects chiefly the association fibers, and more particularly the superficial tangential fibers of Exner-Tuckzek.

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[1] Ballet. *Les lésions cérébrales de la paralysie générale.* Ann. méd. psych., 1898.—Anglade. *Sur les altérations des cellules nerveuses dans la paralysie générale.* Ann. méd. psych., July–Aug. 1898.

(3) *Pia mater and blood-vessels:*

α. The *pia mater is thickened,* infiltrated by nuclei representing proliferating fixed connective-tissue cells or migrating leucocytes.

β. The *blood-vessels* are much more numerous than normally; the walls are thickened, often showing hyaline or fatty degeneration; the perivascular spaces are infiltrated with leucocytes. The appearance of these lesions is identical with those of diffuse cerebral syphilis.[1]

(4) *Neuroglia.*—Proliferation of the neuroglia-cells is very frequently seen; when well marked it is especially prominent in the vicinity of the blood-vessels (Mahaim). Scantily distributed here and there may be seen spider-cells of abnormal shape and even of gigantic size.

Which of the above lesions are primary? There are two current opinions, as follows:

Some (Joffroy, Binswanger) believe that the lesions begin in the tissues of higher development,—the nerve cells and fibers; the proliferation of neuroglia, the increase in the number of blood-vessels, and the changes in their walls are *secondary.*

Others (Magnan, Mendel, Fournier) are of the opinion that the lesions in the blood-vessels are primary and those of the higher tissue elements secondary. Ballet, though adhering to this opinion, does not deny that in some cases of rapid evolution the changes in the nerve-cells may be primary.

(B) **Spinal cord.** — (1) *Cells:* degenerative and atrophic lesions identical with those of the cerebral cells.

[1] Mahaim. *De l'importance des lésions vasculaires,* etc. Bullet. de l'Acad. roy. de Méd. de Belgique, July 1901.

(2) *Nerve-fibers:* there are two principal types of lesions,—the tabetic type and the type of combined sclerosis.

(*a*) *Tabetic type.*—The degeneration is localized in the posterior columns and is similar to the lesion of tabes; this has led many authors to look upon general paresis and tabes as two different localizations of the same morbid process.[1]

An examination of many sections, however, shows that the lesions of the posterior columns are not strictly systemic, as they are in tabes. According to Rabaud [2] they are characterized in general paresis:

"α. By their irregularity, which is seen from an examination of sections from different levels of the cord;

"β. By their diffuseness, apparent in a single section of the cord;

"γ. By the frequent coexistence of spinal scleroses with an intact condition of the roots and of the zones of Lissauer."

It seems, then, that one is justified in looking upon general paresis and tabes as two distinct affections which are sometimes, though rarely, associated in the same subject.[3]

(*b*) *Combined sclerosis.*—The degeneration involves both the posterior and the lateral columns. Moreover, the process here is more diffuse and affects simul-

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[1] Nageotte. *Tabes et Paralysie générale.* Thèse de Paris, 1893.

[2] Rabaud. *Contribution à l'étude des lésions spinales posterieures dans la paralysie générale.* Thèse de Paris, 1898, p. 105

[3] Joffroy. *De la paralysie générale à forme tabétique.* Nouvelle iconographie de la Salpêtrière, 1895.

taneously different systems of fibers (tract of Gowers, crossed pyramidal tract).

(C) **Peripheral nerves.**—The lesions of the peripheral nerves consist in the phenomena of peripheral neuritis and atrophy, analogous to those encountered in tabes and in alcoholism.

(D) **Viscera.**—Three classes of lesions may be distinguished in the viscera:

(1) Lesions occurring merely as accidental complications: various infections, broncho-pneumonia, tuberculosis. The latter is rare and usually runs a slow course.

(2) Lesions which are the direct consequences of the nervous disorders. These have been studied exhaustively by Klippel, who has termed them vaso-paralytic lesions. They consist, according to this author, "in a high degree of congestion and capillary engorgement, capillary hemorrhages, and, by consequence, atrophic degeneration of epithelial tissues." [1]

(3) Diffuse vascular lesions identical in appearance and probably also in their nature and origin with those of the cerebral vessels. Angiolella attributes them to the action of a toxic substance. We shall see their pathological importance later on.

These lesions are met with chiefly in the kidneys, liver, and heart, and are often associated with degenerative

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[1] Klippel. *Lésions des poumons, du cœur, du foie et des reins dans la paralysie générale.* Arch. de méd. expérim. et d'anat. path., July 1892.—Angiolella. *Lésions des petits vaisseaux de quelques organes dans la paralysie générale.* Il manicomio, 1895, Nos. 2 and 3.

lesions, such as fatty or cirrhotic liver, sclerotic kidney, or degenerated myocardium.

Etiology.—The etiology of general paresis is one of the most arduous subjects in psychiatry. The labors of recent years have contributed much towards its solution. It cannot be said, however, that this question is at the present time definitely settled.

(A) **Predisposing causes.**—*Sex.*—Men are much more exposed than *women*[1] to general paresis, although the difference is not so great as was generally believed some years ago; this difference varies in different communities. Exceptional in women in the country, general paresis occurs in the proportion of one case in women to four in men in the large cities (Paris, Berlin, Hamburg).

The menopause and the puerperal state seem to favor its appearance.

It often presents a peculiar aspect in women. The demented and the depressed forms predominate. Delusions when present are usually childish. The patient is proud of her looks, of her dress, etc.

Age.—Rare before thirty years, general paresis is, however, met with in youth and even in childhood, constituting the *juvenile* and *infantile* forms.

Etiologically these cases usually present a neurotic, alcoholic, and syphilitic heredity. Clinically juvenile or infantile general paresis is characterized by an accentuation of the physical signs and by absence of delusions.[2]

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[1] Crété. *Quelques observations sur la paralysie générale de la femme et la paralysie générale conjugale.* Thèse de Paris, 1899.

[2] Toulouse. *La paralysie générale juvénile.* Gazette des hôpitaux

General paresis scarcely ever begins after the age of fifty-five years. Possibly, however, some cases, rather carelessly classified as senile dementia, are in reality cases of general paresis of late onset.

Social factors.—General paresis is not, as was once believed, the sad privilege of cultured men. It affects the working classes as well as the upper classes.

It is much more common in urban than in rural communities, probably because syphilis, alcoholism, and stress, the influence of which will be studied later, are more frequent in the cities.

Individual predisposition.—Entertained formerly by Mattern, Mackenzie, and Bakon, and in our own times by Scholtens, the opinion that general paresis is an accidental affection which may occur in an individual free from all predisposition has to-day scarcely any adherents.

The predisposition is most frequently hereditary. Some are of the opinion that the hereditary factor is usually an *organic* disease in the ascendants: apoplexy, tabes, etc. Ball and Régis have studied the genealogy of one hundred general paretics and found in their family but four insane individuals, while the number of those afflicted with organic nervous diseases mounted to one hundred and forty three.

1898.—Régis. *Arch. clin. de Bordeaux*, July and August 1892.—Joffroy. *Revue de Psychiatrie*, 1898.—Thiry. *Paralysie générale juvénile.* Thèse de Nancy, 1898.—Durpas et Marchand. Ann. méd. psych., 1901.—Mott. *Notes of Twenty-two Cases of Juvenile General Paralysis*, Arch. of Neurology, 1899.—Legrain. *Contribution à l'étude de la paralysie générale chez l'adolescent.* Ann. de la policlin. de Paris, 1893.

Another opinion, which I believe has a wider acceptance, is that general paresis may occur in individuals coming from neuropathic families in the members of which may be encountered organic nervous affections as well as functional neuroses and psychoses. This view is held by Joffroy in France, Funaïoli in Italy, and Näcke in Germany, who have arrived at the same conclusion by different methods.

Acquired predisposition is usually the result of overwork, chronic intoxications, etc. Cases in which no hereditary influence can be found belong to this category.[1]

The predisposition is often latent, so that the future general paretic may appear as a perfectly normal individual. Sometimes, however, meningo-encephalitis attacks true degenerates (Joffroy) and even imbeciles (Cullerre).[2]

(B) **Determining causes.**—The most important are violent or prolonged emotions, overwork, cranial traumatisms, alcoholism, and syphilis. These are not, however, of equal importance. Alcoholism and syphilis are in this respect far ahead of the rest.

Emotions.—In the histories of general paretics we often find grief, financial losses, and sudden fright as causes. A servant-woman, forty years of age, having had her clothing torn by a shell during the siege of

[1] Joffroy. Congrès des médecins aliénistes et neurologistes, Angers, 1898.—Funaïoli, quoted by Mariani. *L'hérédité chez les paralytiques généraux.* Thèse de Paris, 1899.—Näcke. *Die sogenannten äusseren Degenerationszeichen bei progressive Paralyse.* Allg. Zeits. f. Psych., 1899.—Wahl. *Étude sur la descendance des paralytiques généraux.* Thèse de Paris, 1898.

[2] Joffroy. *Loc. cit.*—Cullerre. *Paralysie générale chez un imbécile.*

Strasbourg, soon after showed signs of mental derangement, and five years later was admitted to the hospital with unmistakable signs of general paresis.[1]

Overwork.—Either physical or intellectual overwork is quite a frequent cause. In many observations deprivation of sleep has been found.

All kinds of excesses, especially venereal excesses, when they are not due to the disease itself, act through the general impairment of health which they bring about.

Cranial traumatisms.—Their influence as etiological factors, though denied by some authors, Hirschl among them, is however admitted by most observers. Sometimes the phenomena of paresis appear soon after the injury; in most cases, however, they appear after an interval of varying duration. Traumatisms should, therefore, be considered chiefly as predisposing causes.[2]

Alcoholism.—Already Bayle has pointed out the importance of alcohol in the causation of general paresis. Calmeil and Marcé also recognized it. Among the modern authors who consider alcoholism as a prominent etiological factor in general paresis may be mentioned Joffroy, Magnan, Dagonet, Garnier, Mendel.[3] "General paresis occurs quite frequently as a result of the abuse of alcohol in predisposed individuals" (Joffroy).

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[1] Mendel. *Loc. cit.*, p. 255.

[2] Vallon. *De la paralysie générale et du traumatisme.* Thèse de Paris, 1879.—Meschede. *Paralytische Geistesstörungen nach Trauma.* Allg. Zeitsch. für Psychiat., 1899.

[3] Joffroy. Gaz. des hôpitaux, 1895.—Mendel. *Loc cit.*—Garnier. Progrès médic., 1889.—Hoppe. *Allg. Zeitsch. f. Psychiat.* I, 58, No. 6.—Funaïoli. *Sulle cause e sulla profilassi della pazzia,* 1900.

"The abuse of alcohol is undoubtedly a frequent cause of general paresis" (Mendel).

Some authors, however, do not look upon alcoholism as any more than a predisposing cause. But whatever be its mode of action it constitutes a causative agent of primary importance. Numerous statistics substantiate this; as being among the most recent and the most conclusive may be mentioned those of Hoppe and of Funaïoli.

Syphilis.—We have now come to the most important and *possibly* the essential cause, *sine qua non*, of diffuse meningo-encephalitis.

In 1857 Esmarch and Jessen came to the conclusion that syphilis is the cause of general paresis. Disputed at first, this idea soon found acceptance in many countries, especially in Germany. In France it gained ground more slowly. Charcot always rejected it. Déjerine wrote in 1886: "Syphilis is very rarely found in the histories of general paretics, and has no influence upon the course of the affection. *Its occurrence in paretics is but a coincidence.*"

However, statistics of various authors have furnished uch unmistakable and uniform figures that, with a few rare exceptions, all authors to-day consider syphilis as a factor of high importance in the causation of general paresis.[1]

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[1] Régis. *Syphilis et paralysie générale.* Arch. clin. de Bordeaux, July and August 1892.—Fournier. *Des affections parasyphilitiques*, Paris, 1894.—Ballet. *Loc. cit.*—Sprengeler. *Beitrag zur Statistic*, etc., *der allgemeinen progressiven Paralyse.* Allg. Zeitsch. f. Psychiat. —Fournier. *Rapport de la syphilis et de la paralysie générale* Arch. gén. de Méd., Dec. 1894.

But is syphilis the *essential* and *specific* cause of the affection? On this point the opinions are divergent.

Some claim, like Fournier, that general paresis is a disease of syphilitic origin, a parasyphilitic affection; others believe with Joffroy that syphilis is but an adjuvant—a powerful one, it is true—which favors the occurrence of the disease but does not alone suffice to produce it.

The limits of this work do not permit of a detailed exposition of the arguments advanced in favor of each opinion. Moreover there is no conclusive proof of either theory. Statistics can give us only strong probabilities, not certainties.

The uselessness of specific treatment in most of the cases of general paresis does not prove that the disease is not of syphilitic origin: are there not lesions, especially of the cord, the syphilitic origin of which is doubted by no one, but which are not in the least influenced by the most thorough specific treatment?

For a long time the adversaries of the syphilitic origin of the disease have offered the so-called anatomico-pathological proof. They argued that syphilis occasions circumscribed lesions, while the lesions of general paresis are diffuse. Ballet has shown the unsoundness of this argument:

(1) It constitutes a mere *petitio principii*, for there is nothing to prove that we already know all the lesions of syphilis.

(2) There *are* diffuse syphilitic myelites, and consequently there is nothing against the existence of a diffuse meningo-encephalitis; that is too say, syphilitic general paresis.

(3) The vascular lesions of general paresis are identical with those encountered in certain syphilitic affections of the viscera (liver, kidneys), and even in syphilitic cerebral lesions (Mahaim).

Thus the anatomico-pathological proof falls of itself. But could the partisans of the syphilitic origin look upon this as an argument in proof of their theory? It seems to me that this would be a *petitio principii* on their part, for, if we cannot assume that we are acquainted with all the lesions that syphilis can produce, we are equally unable to assume that syphilis is the *only* factor capable of producing these lesions of the blood-vessels and other tissues.

Does the comparative pathology of races clear up this point? It is certain that syphilis is frequent and that general paresis is rare among the Arabs, Abyssinians, and South Africans, as was shown by Ballet; but this proves nothing at all. It is quite possible that syphilis cannot produce the lesions of chronic meningo-encephalitis except under certain conditions created by civilization and absent among primitive and low races. The partisans of the syphilitic origin do not deny the necessity of a predisposition.

Krafft-Ebing presented at the International Congress of Medicine at Moscow results of experiments constituting an incontrovertible argument in favor of the syphilitic origin, even though the experiments were made upon a limited number of subjects. A physician, whose name is not mentioned, inoculated with syphilis nine general paretics who had reached the last stage of the disease and in whose history syphilis was not to be found: not one of these developed the

indurated chancre. This experiment repeated upon a large number of patients can afford a solution to this great problem. For obvious moral reasons probably very few will ever be tempted to undertake this work.

Thus at the present time we have no conclusive evidence either for or against the syphilitic origin of general paresis. In the absence of positive proof the following conclusions, though provisional, seem to be most nearly in accord with the facts: (1) the frequency of syphilis in the histories of general paretics is unquestionable; (2) undoubtedly syphilis is a highly important factor in the etiology of the disease; (3) in the present state of our knowledge of the subject it is impossible to affirm that general paresis is a *syphilitic disease.*

The ultimate nature of the disease is still unknown. Perhaps it constitutes merely a syndrome which can be produced by diverse causes, and it would perhaps be more correct to speak of *general pareses* than of *one* general paresis.

One fact seems to be certain: the morbid agent, whatever it may be, exerts its action not solely upon the nervous system, but upon the entire organism. This is proved by the constant presence of lesions and functional disturbances of the viscera.

The diffuse character of the lesions together with certain clinical features of the disease, notably the frequency of epileptiform attacks, have led Kraepelin to formulate an ingenious hypothesis, only the principle of which I shall mention here, but a detailed exposition of which is to be found in the magnificent work of that

author.[1] According to him, general paresis is *a disease of autointoxication*. The poison results from a disordered metabolism the cause of which is often, but not always, syphilis. When this disorder is once established the evolution of the disease takes place automatically, so that the late accidents have nothing to do with the original cause. When the thyroid body is destroyed, whether it be by syphilis, by tuberculosis, or by a tumor, the consequence is invariably myxœdema; why, then, should an alteration of some essential function, either by syphilis, alcoholism, or any other morbid agent, not be manifested ultimately by the same phenomena, that is to say by the symptoms and lesions of general paresis?

Treatment.—This is but symptomatic. As is admitted even by partisans of the syphilitic origin, specific treatment exercises absolutely no favorable influence upon the course of the disease. If the hypothesis of Kraepelin is correct, this fact is not surprising; when the first symptoms of general paresis appear, syphilis has already accomplished its work, and it is too late for combating it.

Rest and avoidance of all excitement and fatigue are the only means at our disposal for retarding to some extent the course of the disease.

Excitement, insomnia, refusal of food, involuntary evacuation of urine and fæces, and the other symptoms are to be treated by the usual methods.

By special care with regard to the cleanliness of the patient, by allowing him to remain out of bed for

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[1] *Lehrbuch der Psychiatrie*, Vol. II, p. 381.

several hours each day, or by frequently changing his position in bed, by the use of air- or water-beds, and by promptly attending to beginning ulcerations, using an antiseptic and tonic lotion, it is quite possible to avoid bed-sores, to heal them, or at least to retard the progressive ulceration.

Enemata, leeches to the mastoid processes, sinapisms to the lower extremities, and topical blood-letting constitute the classical and perhaps efficacious treatment for the seizures. Continued convulsions are sometimes successfully combated by rectal injections of chloral or by inhalations of chloroform.

CHAPTER X.

MENTAL DISORDERS DUE TO ORGANIC CEREBRAL AFFECTIONS.

All the so-called organic cerebral affections, whether diffused or localized, have an influence upon the psychic functions.

Among the most important may be mentioned general arteriosclerosis (arteriosclerotic degeneration of Alzheimer), chronic subcortical encephalitis of Binswanger, cerebral tumors, abscess of the brain, chronic meningeal inflammatory lesions, hemorrhages, and softening of the brain.

As met with in a slighter degree of intensity the psychic manifestations of these different pathological conditions are limited to *a certain sluggishness of ideation and change of character.*

In the more marked cases this sluggishness of ideation becomes *intellectual obtuseness.* The patient understands none but the simplest questions; he is incapable, even independently of any aphasia, of sustaining a continued conversation. He is sometimes *disoriented,* does not know exactly where he is, and loses the notion of time.

All psychic activity is half extinguished. Weeks

and months pass in a sort of a dreamy state, during which the patient neglects his daily duties. He requires constant care like a child and must be fed, dressed, washed, and combed. In grave cases the patient constantly wets and soils himself, and this filthiness can be prevented only by the most careful supervision.

The *memory* is profoundly affected. Current events make no impression upon the mind. Old impressions become effaced, following the law of retrogression.

The moral indifference, always very marked, is apt to be interrupted by outbursts of anger or emotionalism which appear without provocation and closely resemble those met with in senile dementia.

Diverse accidental symptoms, which are often due to a localization of the morbid process, may complicate the above-described psychic disorders. Such are hallucinations and delusions which assume the most varied forms.

The psychic disorders in themselves exhibit nothing pathognomonic, and the diagnosis must be based upon the physical symptoms: paralyses, anæsthesias, disorders of speech, etc.

Cerebral tumors may readily simulate general paresis. Weber has reported a curious observation upon a case of multiple cerebral tubercles which gave rise to symptoms typical of general paresis. In doubtful cases particular attention should be paid to localization symptoms, and especially to the state of the optic disc. Choked disc, almost constant in cerebral tumors, is never seen in general paresis.

The mental disorders in such cases present certain peculiarities which may aid in the diagnosis. Dupré

and Devaux [1] have found that "patients suffering from cerebral tumor present a peculiar state of mental depression and enfeeblement, which constitutes their dominant psychopathic note: this state is one of torpor, *psychic dullness*, and *clouding of the intellect*, to which may be added mental *puerilism*." Properly speaking these cases present no true dementia until the affection has reached its terminal period. According to the same authors [2] "the intelligence, though clouded, is not, however, destroyed. It responds to strong stimuli, to imperious injunctions; it is veiled, but nevertheless present, and it is not until the last phases of the development of the affection that it declines and finally disappears."

It is a generally accepted opinion, the correctness of which is often verified clinically, that psychic disorders occur chiefly as manifestations of frontal tumors.

Syphilitic disease of the brain is often difficult to distinguish from general paresis. Besides the localization symptoms which it most frequently gives rise to, special attention is to be paid to the character of the intellectual enfeeblement. Binswanger has given a very good description of it: [3] "Post-syphilitic dementia has a peculiar evolution: it develops in acute or subacute attacks which occur as a result of gummatous affections of the meninges, of the brain, or of the vessels; the dementia remains stationary unless new syphilitic

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[1] *Nouvelle iconographie de la Salpêtrière. Tumeur cérébrale.* 1901, Nos. 2 and 3, p. 51.

[2] *Loc. cit.*, p. 8.

[3] *Beiträge zur Pathogenese*, etc. Festschrift gewidmet Prof. Dr. Emil Ponfick. Breslau, 1900.

lesions occur to cause its further progress. Moreover, specific treatment, if instituted at the time of the appearance of the lesions, has an influence upon cerebral syphilis. This special evolution distinguishes syphilitic dementia from general paresis, which usually establishes itself insidiously and the course of which is progressive."

When localization symptoms occur in general paresis they are but transitory, save in exceptional cases. This feature distinguishes them from the permanent paralyses of *softening* and of *hemorrhage of the brain*. The peculiar impairment of speech of the general paretic is distinguished by its ataxic, hesitating character from the indistinct speech of the hemiplegic.

Senile dementia never presents localization symptoms, except in the cases where actual hemorrhage or softening occurs in addition to the cerebral atrophy. It is then almost impossible to distinguish the part played by the senile process from that of the localized lesion. Such is also the case with alcoholic dementia, which, like senile dementia, is quite likely to be complicated by the lesions of softening or of hemorrhage. The two morbid processes are so intimately correlated that it is impossible to distinguish their manifestations.

The intellectual enfeeblement of *dementia præcox* differs greatly from that of organic dementia. Generalized in the latter, the dementia in the former is, on the contrary, elective. The physical symptoms which may somewhat resemble localization symptoms are usually slight and transitory. The question is more complicated where an organic lesion is associated with dementia præcox, which sometimes happens. I have seen a precocious dement who presented a hemiplegia of syphilitic

origin. The character of the dementia is then greatly modified. The impairment of the memory in such cases runs a rapid course not seen in ordinary cases of dementia præcox.

The *pathogenesis* of mental disorders dependent upon the so-called organic cerebral lesions is rather complex. While it is quite intelligible how diffuse lesions (generalized arteriosclerosis, diffuse cerebral syphilis) can bring about psychic symptoms, it is not so clear how a localized lesion, such as abscess, cerebral tumor, localized meningitis, can disturb the intelligence,—a function that is not definitely localized.

For a long time the psychical symptoms have been attributed to the increased tension of the cerebrospinal fluid which produces cerebral compression. This opinion is quite tenable. It cannot, however, be adopted exclusively. Dupré and Devaux have in fact recently shown that a rôle of primary importance is played by a toxi-infectious process the starting-point of which is the local lesion: "In the pathogenesis of cerebral tumors, aside from the cerebral compression, which is perhaps of considerable importance in itself, it is necessary to assign a place to the *action upon the nervous elements of toxic products which are secreted by the neoplasm.* In favor of this hypothesis there are certain arguments: the *hysto-pathological* (changes in the cortical cells and optic nerves similar to toxi-infectious lesions), the *anatomical* (free communication between the blood- and lymph-vessels of the neoplasm and those of the brain, which permits of the impregnation of the cerebral tissues by toxines from the pathological focus; extreme sensitiveness of the gray matter to toxines), and the

clinical (the analogy existing between the clinical picture of toxic encephalopathies,—uræmia, diabetes, plumbism, etc.,—and that of neoplasmic encephalopathy). Cerebral intoxication ought, therefore, to be assigned a place among the pathogenic factors (compression, irritation, vascular phenomena), which are accepted as accounting for the symptomatology of cerebral tumors."[1]

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[1] *Loc. cit.*, p. 51.

CHAPTER XI.

PSYCHOSES OF INVOLUTION.

§ 1. Affective Melancholia.[1]

The causes of this disease are not well known. Hereditary or congenital predisposition is found in about 60% of the cases. The most frequent factors are grief, stress, infectious diseases,—tuberculosis in particular,—and in women the menopause. Occurring chiefly after forty-five years of age, it seems to be intimately connected with the phenomena of organic retrogression beginning at this age; hence the name "*involution melancholia*," which is often applied to this disease.

The prodromal period, which is almost constant and usually very long, indicates a profound, slow, and progressive change of the entire organism: the process of digestion is painful; there is anorexia, insomnia, irritability, unwarranted pessimism, and a tendency to rapid fatigue.

Finally the disease sets in, characterized from the beginning by the intensity of the *moral pain*, which

[1] [The term *affective melancholia* has been used by Wernicke to designate a condition corresponding to the depressed type of manic depressive insanity. The reader will observe that it is used here in an entirely different sense.]

renders the malady deserving of the name *affective melancholia.*

It presents itself with the train of physical and psychical symptoms already studied in connection with active depression. When associated with anxiety, it gives rise to *anxious melancholia.*[1]

The anxiety may result either in *agitation* (melancholia agitata) or in *stupor.* In the latter case the patient appearsas though dumfounded with the pain. "A frightful internal anxiety constitutes the fundamental state which torments him almost to suffocation."[2]

When the moral pain is very marked, it entails sometimes a certain degree of *mental confusion* which is most frequently transitory and subject to the same fluctuations as the moral pain, of which it is a manifestation.

In cases of slight or moderate intensity the *lucidity* is perfect and sometimes permits the patient to analyze his case with considerable minuteness.

The *associations of ideas are sluggish,* less so, however, than in the depressed form of manic depressive insanity. We have seen, in fact, that the intensity of psychic inhibition is inversely proportional to that of the moral pain; naturally, therefore, the inhibition occupies here a secondary position. Between the cases in which the moral pain clearly predominates and those in which the inhibition is the principal feature, there is a host of intermediary forms which establish an insensible transition between affective melancholia and manic depressive insanity. These two affections

[1] Capgras. *Essai de réduction de la mélancolie à une psychose d'involution présénile.* Thèse de Paris, 1900.—Kraepelin. *Lehrbuch der Psychiatrie.*

[2] Griesinger. *Loc. cit.,* p. 292.

seem to be closely related to each other, and borderland cases are not infrequent.

Moreover, the moral pain may in itself become a cause of psychic inhibition and create affective melancholia with stupor.

To these psychic phenomena are added physical disorders most of which have already been considered:

Respiratory and circulatory disturbances which depend upon the depression and anxiety;

Disturbance of the digestive functions: anorexia, dyspepsia, painful digestion, constipation;

Impairment of the general nutrition, changes in the composition of the urine (diminution of urea, slight albuminuria), and rapid loss of flesh. This latter symptom is of particular importance; a rise in weight always indicates the termination of the acute period: the patient is either entering upon his convalescence or lapsing into dementia;

The menses are usually suppressed. Their reappearance has the same prognostic significance as the return of the normal weight: it indicates either the approach of recovery or the passage into a chronic state;

Finally, there are various nervous troubles: headache, palpitation, tremors, hysteriform crises, and insomnia.

These are the fundamental symptoms of affective melancholia in its simplest form and uncomplicated by delusions. This form is rare, for almost always delusions are present in addition to the above symptoms (delusional affective melancholia).

All varieties of melancholy delusions are encountered in this affection: ideas of culpability, of humility, of ruin, hypochondriacal ideas, and ideas of negation.

The syndrome of Cotard scarcely ever appears except in the chronic forms.

With the appearance of intellectual enfeeblement the delusions become absurd and incoherent, as they are in all states of dementia.

Hallucinations are not frequent. The least rare are, according to Séglas, those of vision. Those of hearing, taste, and smell are occasionally met with, while those of general sensibility are altogether exceptional.

Illusions of all sorts are, on the contrary, frequent. They are quite likely to assume the form of *false recognitions*.

Finally, *delusional interpretations* are constant. The patient hears the noise of hammer-strokes in his vicinity and thinks they are preparing a scaffold for him. He hears the sound of voices in the street and thinks the mob is going to seize and lynch him, etc.

The reactions are usually in harmony with the melancholy state and with the nature of the delusions. Sometimes they assume an exclusively automatic character; it is to be noted that negativism is not at all rare. The agitation may be extremely violent and sudden, and it may be accompanied by profound clouding of consciousness (raptus melancholicus).

Melancholia may terminate in:

(*a*) Complete *recovery* [32%];

(*b*) An *improvement* sufficient to allow the patients to return to normal life [23%];

(*c*) *A lapse into a chronic state* marked by a diminution of the emotional depression and by the appearance of intellectual enfeeblement. The latter consists chiefly in a certain degree of incoherence analogous to that noted in dementia præcox [26%];

(*d*) *Death* [19%],[1] which may be due to:

(I) *Suicide*, which is the more likely to occur the more pronounced the moral pain and the less marked the psychic inhibition. The melancholiac may commit suicide at any period of his illness, even during convalescence, when, on account of a real or fictitious gaiety, supervision over him is likely to be relaxed;

(II) To *melancholic wasting*, the principal factors of which are the intensity of the moral pain, anxiety, agitation, and insufficient alimentation occasionedby a poor condition of the digestive tract, orby a delusion, or by a suicidal idea;

(III) To some *complication* the occurrence of which is favored by the defective nutrition of the tissues: pneumonia, influenza, tuberculosis.

The *duration* of the affection is very variable, from several weeks to a few years.

Treatment.—The principal indications are:

To watch the patient with a view to the prevention of suicide;

To support his strength;

To calm agitation if there is any;

To pay special attention to the alimentation.

The first three indications are admirably fulfilled by rest in bed.

Forced alimentation is often necessary to fulfill, the fourth.

The moral pain may be efficaciously combated by the administration of opium in increasing doses. One may start with 15 minims of the tincture per day,

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[1][Kraepelin *Lehrbuch der Psychiatrie*, Vol. II, p. 457.]

increase to 60 minims or more, and then gradually reduce the quantity to the initial dose before discontinuing the treatment.

Finally, prolonged warm baths are often of great service in the agitated forms.

§ 2. Senile Dementia.

Senile dementia may be defined as a peculiar state of intellectual enfeeblement, with or without delusions, resulting from cerebral lesions determined by senility.

Age is here, therefore, the great etiological factor; it is, however, not the sole factor. Many individuals attain an extreme old age without presenting any appreciable intellectual disorders; others, on the contrary, have scarcely passed over the threshold of senility when they are already veritable dements. The effects of age are the more powerful and the more precocious the more marked the predisposition. Heredity, the intoxications (alcoholism), overwork, violent and painful emotions, traumatisms, etc., by diminishing the vitality of the cerebral cells render them more susceptible to the influence of senility.

Statistics furnish a rather small proportion of congenitally predisposed among senile dements, but this is due to the fact that it is frequently impossible to obtain reliable family histories in such cases.

Senile dementia is rare before sixty years of age. Alcoholism sometimes brings about an analogous state of intellectual enfeeblement, appearing towards fifty or fifty-five years, which has been designated by the term *sœnium præcox*. Such cases are exceptional if we exclude ordinary alcoholic dementia.

The *onset* sometimes follows some strong emotional shock, financial troubles, or a somatic affection. Almost always it is insidious, marked simply by a change of disposition and slight disorders of memory. When fully established the dementia presents the following fundamental elements:

(*a*) *Impairment of attention and sluggishness of the associations of ideas*, readily demonstrable by psychometry, as has been shown by the experiments of Rauschburg and Balint.[1] (These authors performed their experiments upon cases of simple senile dementia without delusions.) A curious fact observed in these experiments is that the associations of ideas are almost always determined by the sense of the words, and rarely by similarities of sound or by rhymes. It will be remembered that associations by similarities of sound are the result of automatic psychic activity; it seems, therefore, that the mental automatism, instead of being exalted, as it is in certain psychoses (mania), is like the voluntary psychic activity, diminished, at least in simple senile dementia without delusions.

(*b*) *Inaccurate and incomplete perceptions of the external world*, the consequence of which is the production of numerous illusions and of disorientation of place.

(*c*) *Disorders of memory*, comprising:

(I) *Amnesia of fixation* (anterograde amnesia), which entails disorientation of time;

(II) *Amnesia of conservation* (retrograde amnesia), which is progressive and which most perfectly follows the law of retrogression;

[1] *Ueber qualitative und quantitative*, etc. Allgem. Zeitsch. für Psychiat., 1900.

(III) *Illusions and hallucinations of memory,* which form the basis of imaginary recollections, often absurd or puerile in character and varying from one instant to another.

(*d*) *Impoverishment of the stock of ideas:* old impressions disappear and are not replaced by new ones. This is the cause of the tiresome repetitions in the discourses of old dotards.

(*e*) *Loss of judgment:* the patient does not accept new standpoints of view. He mourns for the good old times and shows a profound contempt for new ideas which he is incapable of assimilating.

(*f*) *Diminution of affectivity, morbid irritability:* hence the indifference of senile dements for their relatives and for their interests, their unprovoked outbursts of anger, their tyrannical tendencies, and their occasional emotionalism.

(*g*) *Automatic character of the reactions:* from this point of view senile dements may be divided into two classes: the *turbulent* and the *apathetic.*

The turbulent are always moving, intrude everywhere, give unreasonable or contradictory orders, get up during the night and wander about the house with a candle in their hand at the risk of starting a fire. Their mood is either depressed or elated and hypomaniacal. Sexual excitement, most often purely psychic, is quite likely to be associated with this state and, together with the intellectual enfeeblement, leads the patient to dangerous acts: attempts at rape, indecent exposures, etc.[1]

By the term *exhibitionists* have been designated those insane

The *apathetic* senile dements have an indifferent, stupid aspect. The patient's mouth, half open, allows the saliva to drool away; he remains motionless upon the chair where he has been placed; he is docile, obedient, and very suggestible. When in the hands of unscrupulous persons, he allows himself without protestation to be swindled and maltreated, and unconsciously yields to inveiglements for imprudent disposal of his property.

In advanced stages of the disease the turbulent as well as the apathetic senile dements frequently become *filthy*, often soiling and wetting themselves.

Sleep is diminished and often even absent in the excited forms. On the other hand, constant somnolence is frequent in the apathetic cases.

Together with the dementia there are the regular signs of senility: the skin is wrinkled and discolored; the hairy system is undergoing atrophy; the patellar reflexes are sometimes abolished, but more frequently exaggerated; the pupils are slightly myotic and paretic; arcus senilis is well marked; there is hypoæsthesia of all the senses; the movements are awkward and uncertain; there is diminution of the muscular power; senile tremors affect the entire body and especially the head; where they consist of coarse oscillations.

The *cardio-vascular* symptoms are of great importance. They are dependent upon arteriosclerosis and myocarditis; the pulse is rapid and feeble, the heart-sounds are muffled, the arteries are hard and sinuous, like a

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who have a morbid tendency to exhibit publicly their genital organs.

pipe-stem. These lesions are largely responsible for the disorders of the cerebral nutrition and are the cause of such formidable complications as cerebral hemorrhage and softening.

The signs of interstitial nephritis are frequently observed.

The appetite is diminished, or, on the contrary, it may be exaggerated to a degree constituting voracity. In the latter case the patients should be carefully dieted to prevent grave gastro-intestinal disturbances.

Delusional forms.—The delusions bear the stamp of dementia: they are absurd, changeable, and present little or no tendency to systematization. They may be of the following varieties:

(*a*) *Ideas of persecution*, which in their mildest form manifest themselves by mere suspiciousness, which is always frequent in old persons. Their form is varied: ideas of poisoning, of theft, of jealousy, fear of being killed, etc.

The persecutory ideas are the ones that are most likely to become systematized, though the systematization is very imperfect, and to be accompanied by hallucinations, chiefly of hearing and of vision. Sometimes these delusions appear long before any evidences of dementia, constituting the *presenile persecutory delirium* (Kraepelin).

(*b*) *Melancholy ideas* of all possible types: ideas of self-accusation, of ruin, etc. Ideas of negation are very frequent.

(*c*) *Ideas of grandeur*, which are at times absurd, resembling those of general paretics.

The delusions are associated with a corresponding

state of the emotions and of the reactions. Three principal forms of delusional senile dementia may be distinguished:

(1) *Persecutory form*: ideas of persecution; reactions of self-defense which may at times be violent.

(2) *Melancholic form:* melancholy ideas, moral pain, depression, anxiety, suicidal ideas.

(3) *Maniacal form:* euphoria, ideas of grandeur, variable moods, impulsive reactions, sometimes flight of ideas, erotic tendencies, etc.

Senile dementia is sometimes marked by acute attacks characterized by complete disorientation and hallucinations, closely resembling certain phases of general paresis, and especially delirium tremens [*senile delirium*]. These attacks, usually very brief, terminate either in death or in a return to the previous condition. They may occur in old persons independently of any intellectual enfeeblement (Wernicke).

The principal *complications* of senile dementia are:

Apoplectic and sometimes *epileptic seizures* (senile epilepsy), hemiplegia, aphasic phenomena, etc.

Alcoholism in the form of episodic accidents (delirium tremens) or of alcoholic dementia may be associated with senile dementia.

The *prognosis* is fatal. The affection always follows a progressive course. Remissions are very rare and never complete. Death usually supervenes at the end of from three to five years, as a result of senile cachexia, of some intercurrent disease (pneumonia), or of apoplexy.

Not all psychoses occurring at an advanced age are senile dementia. Old men present attacks of manic depressive insanity, paranoia, and other psychoses

which differ in no way from those observed in younger people.[1]

The *diagnosis* is to be based upon the pathognomonic features of the dementia.

Affective melancholia and *manic depressive insanity* may be distinguished by the absence of intellectual enfeeblement, by the conservation of the lucidity, and by the intensity of the affective phenomena,—moral pain or euphoria.

General paresis may be differentiated by the more rapid development of the dementia and by its special physical signs.

Alcoholic dementia shows the physical signs of chronic alcoholism: cramps, muscular tremors, gastric disorders, etc. Senile dementia and alcoholic dementia may exist together.

The *anatomical lesions* arise from a process of wear and atrophy: atheroma of the cerebral arteries, thickening of the meninges, diminution of the weight of the brain, which may sometimes fall below 1000 grams; thinning of the cortex; diminution of the number of nerve-cells, chromatolysis, pigmentary degeneration, atrophy; disappearance of a large number of tangential fibers.

The *treatment*, purely symptomatic, consists chiefly in hygienic measures. Commitment is but seldom necessary. The majority of cases are best treated in special asylums for the aged or in private homes.

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[1] Thivet. *Contribution à l'étude de la folie chez les vieillards.* Thèse de Paris, 1889.—Régis. *Psychoses de la vieillesse.* Ann. méd. psych., March–April 1897.—Ritti. *Les psychoses de la vieillesse.* Congrès des médecins aliénistes et neurologistes, 1896.

CHAPTER XII.

MANIC DEPRESSIVE INSANITY.[1]

Manic depressive insanity is manifested in attacks presenting a double characteristic: a tendency towards recovery without intellectual enfeeblement and a tendency towards recurrence. From a symptomatic standpoint the attacks are of three types, which I shall describe successively:

Manic type;
Depressed type;
Mixed type.

§ 1. Manic Type.

Mania presents itself in three principal forms: simple mania, delusional mania, and confused mania. We shall first study simple mania, which, more clearly than the other forms, exhibits the following four fundamental symptoms of the disease:

Flight of ideas;
Morbid euphoria and irritability;
Impulsive character of the reactions;
Motor excitement.

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[1] Kraepelin. *Lehrbuch der Psychiatrie*, Vol. II.—Weygandt. *Ueber das manisch-depressives Irresein.* Berlin. klin. Woch., 1901, Nos. 4 and 5.

Simple mania. — *Prodromata.* — The phenomena of maniacal excitement are constantly preceded by a period of depression associated with a diminution of psychic activity, which sometimes amounts to a veritable melancholic state. Later on we shall see the importance of this prodromal period as an argument for the unity of manic depressive insanity.

External aspect.—The face of the maniac is flushed, the eyes brilliant, the expression happy and animated. The manner and gestures indicate a state of ease contrasting often with the usual timidity of the patient. The dress is showy, ridiculous, and ornamented with gaudy trinkets; the clothes are disordered, perhaps put on inside out. In women a bodice excessively décolleté and the skirt raised too high show also the erotic tendencies.

Intellectual disorders.—The lucidity is perfect, the orientation and the memory are intact.

The *attention*, very *mobile*, is distracted by all external impressions.

The associations of ideas, uncontrolled, are formed at random from similarities of sound, superficial resemblances, coexistences in time and space, etc. *Flight of ideas* is here encountered in its typical form.

These two symptoms, mobility of attention and flight of ideas, are, as we have already seen, an expression of the enfeeblement of the normal psychic activity and of the predominance of mental automatism. Under these conditions the capacity for intellectual labor is diminished.

The *judgment*, which is largely dependent upon associations of ideas, is always profoundly disordered.

Though occasionally the patient surprises one by the accuracy of his observation, it is always the result of a sort of automatic appreciation bearing upon some isolated fact. But since judgment necessitates the systematic grouping of quite a considerable number of ideas, it is here either absent or at least impaired. A maniac who notices some slight defect in the dress of the examiner is incapable of appreciating the importance of an event or of an act.

Affective disorders.—These consist in *morbid euphoria* and *irritability.*

The *euphoria* is often very marked. Many patients after recovery declare that they had never felt as happy as they did during the attack. The maniac is pleased with everything, and the contrast is particularly striking when the excitement follows a period of depression (insanity of double form). The most imperturbable optimism replaces the pessimism of past days. Of disease insight there is no question at all; the subject "never before felt so well;" if he is "somewhat nervous" the fault is with his relatives, the physicians, or the nurses, who constantly interfere with him. With his intelligence and activity he could "easily conduct important and gigantic enterprises." If he were allowed liberty of action, he would show to everybody what he is capable of.

Sad impressions are dismissed with a vague remark or a joke. A maniac, reminded of the loss of his fortune in a fire (which in his case was the cause of the disease), replied laughingly: "Money does not bring happiness, and besides I shall have earned twice as much in six months from now."

The optimism, however, is never as absurd as that of general paretics or of senile dements. Dumas cites the case of a general paretic who, reminded of the recent death of his two little daughters, replied: "Well, well! I shall resuscitate them." A maniac would never have given such an answer.

The *irritability* is evident in the violent outbursts of anger which occur on the slightest provocation. The maniac will bear no contradictions and will accept no suggestions.

The *moral sense* is always diminished; the sense of propriety is greatly affected. The maniac is cynical, dishonest, and mischievous. "He lies, cheats, and steals without the least scruple. He allows himself anything that in others he would condemn" (Wernicke). Quite frequently he will tease and mock others. If in the midst of his incoherent speech some pointed or amusing remark occurs, it is always at the expense of others.

Erotic tendencies form an integral part of the picture: the patients abandon themselves to them without shame. Men previously exemplary in habits go around with prostitutes. Young girls very reserved in their manner normally offer themselves to everybody.

One frequently sees maniacs indulging in *alcoholic excesses*.

The patient is incapable of appreciating the significance of his actions either before or after they are accomplished. The most deprecable acts are displayed with complacency and become the object of cynical pleasantries; compunction and scruples are absent.

Reactions.—The erethism of the psychomotor centers, constant in mania, gives rise to *maniacal excitement* the elements of which are the imperative want of movement, the abnormal rapidity of the reactions, and the impulsive character of the acts.

Maniacal excitement always has a psychic origin (Wernicke); the acts, though impulsive, are dependent upon an appreciable cause and have a definite purpose.

This excitement often assumes the aspect of morbid activity which, lacking in logical sequence, remains unproductive when it does not become harmful. The maniac every instant leaves one task to begin another, or undertakes tasks for which he possesses neither the necessary aptitude nor the qualifications. A farmer, fifty years of age and scarcely able to read or write, wanted to undertake the study of Hebrew "to unite the Jews and Protestants."

The maniac is strongly inclined to intrude into the affairs of others, causing, as might be expected, much trouble. He offers his advice and assistance to everybody. In the asylum he accompanies the physician on his rounds, makes diagnoses, and prescribes treatment. Often he tries to assist the nurses, who find it very difficult to moderate his zeal.

In the more marked degrees the excitement leads the patient to many eccentricities. He removes his clothing, replaces it; executes pirouettes and dangerous leaps; sings obscene songs; performs grimaces and contortions for the amusement of his spectators; and frequently annoys others in a thousand ways.

The *conversation* is animated, strewn with eccentric remarks, strange words, and puns. The language may

be either profane and obscene or marked by a labored refinement. The tone may be jocose or solemn, accompanied by the gestures of a gamin or, on the contrary, by those of a commander or a preacher. There is often a veritable logorrhœa.

The *writing* presents analogous characteristics. Volubility and prolixity are manifested by whole pages scribbled within a few minutes. The lines cross each other in every direction, the letters are large in size, and capitals and flourishes are abundant.

The discourse is conducted at random: reflections upon questions of transcendental philosophy as well as upon those of dress or cooking; slander and intimate confidences, extravagant projects and erotic proposals. The maniac conceals nothing. Mangan has very aptly remarked: "Il est tout en dehors."

Physical symptoms.—We find in mania the physical symptoms which, as we have already seen, are associated with morbid euphoria: the general nutrition and the peripheral circulation are active, the pulse is full and rapid, respiration is deep and accelerated, the appetite is good, and the weight increases.

Sleep is diminished, occasionally altogether absent; but in spite of the insomnia the patient experiences no fatigue.

Often in women the menses are suspended, and their return announces the approach of recovery. When they persist through the attack their appearance is likely to provoke a recrudescence of the excitement.

Delusional mania.—The fundamental symptoms are the same as those of simple mania. The excitement

may be more marked and the lucidity perhaps transitorily disturbed.

The delusions are usually *mobile* and consist in *ideas of grandeur.*

The most varied delusions follow each other, modified every instant by external impressions. The patient assumes all the titles mentioned to him: he is in turn pope, physician, and admiral. Occasionally the delusions are referred to the past and take the form of *imaginary recollections:* a shoemaker pretended to have directed an expedition to the North Pole.

The patient often transforms the surroundings in which he finds himself. A maniac called the head nurse of the service where he was treated the chief of his military station, the physician he called the prince of Sagan.

The costume corresponds with the delusions: the patients clothe themselves in fantastic uniforms, cover their chests with decorations, comb their hair in the style of Bonaparte, etc.

Sometimes one delusion persists and becomes fixed during the entire duration of the attack in the midst of more mobile accessory delusions: a modest business agent for several months proclaimed himself to be the President of France, and considered the physicians and nurses as his "grand staff."

The maniac never has absolute faith in his delusions. His conviction is easily shaken. Often even he himself only half believes in the pompous titles that he gives himself; his delusions are a sort of pleasantry with which he amuses himself and with which he mystifies his friends.

Some ideas of persecution, often bearing upon the deprivation of liberty, may occur in addition to the ideas of grandeur.

Hallucinations are rare and fleeting. On the other hand, *illusions* are frequent and lasting; they often assume the form of false recognitions: the patient is apt to believe himself surrounded by his acquaintances and by familiar objects.

In grave forms, during paroxysms, the consciousness at times undergoes a *certain degree of clouding* and the period of illness leaves but a very vague impression, or none at all, upon the memory.

Confused mania.—Clouding of consciousness is here permanent. The attack begins suddenly or after a short prodromal period, characterized from the beginning by complete disorientation, very great excitement, and totally incoherent delusions. Numerous hallucinations always accompany the delusions. The form of the delusions is very variable: in confused mania are often encountered ideas of grandeur, of persecution, and occasionally, as an episodic accident, some melancholy delusions.

Even when the grandiose ideas predominate euphoria is very frequently absent. The cause of this anomaly probably exists in the purely automatic character of all the psychic manifestations. To provoke a sense of pleasure the activity must be conscious, that is to say, accompanied by a voluntary effort, no matter how slight; whereas in confused mania the fragmentation of the personality is such that the flight of ideas is effected with extreme facility: the effort is absent and with it the euphoria.

The patient loses weight, the features become drawn out, the pulse grows small and depressible. The intensity of the excitement permits of no regular alimentation.

Filthy tendencies are frequent: unless watched constantly the patient is apt to smear the walls, his bed, his clothing, and his own body with fæces. Some will even eat fæces.

The attack may terminate in death, either from general exhaustion or from some intercurrent complication: pneumonia, suppuration occasioned by traumatism, etc.

General course, duration, and prognosis of a maniacal attack.—The course of mania is capricious. In a general way it may be represented by a curve which at first ascends, then remains horizontal for a longer or shorter time, and finally gradually descends. But this curve, far from being regular, is interrupted by oscillations indicating either sudden exacerbations or attenuations of the symptoms, or even true remissions the duration of which may vary from several minutes to several days. The progress of the attack may also be interrupted by phenomena of depression which are sometimes quite marked, though very brief in duration. As we shall see later on, this fact contributes to the proof of the homogeneity of manic depressive insanity.

The *duration* of the attack, whatever its form, cannot be predicted. Some attacks terminate in a few hours, deserving a place among the *transitory insanities*, others continue for several years.

The *prognosis*, leaving out the cases in which life is endangered by the intensity of the excitement or by

some complication, is *favorable* as to the termination of the attack itself. Recovery with *restitutio ad integrum* is the rule.

Treatment.—Rest in bed in these cases performs miracles. It is well accepted and easily instituted. Unfortunately it is not possible at present to say whether or not it actually shortens the duration of the disease.

§ 2. Depressed Type.

The fundamental symptoms of the depressed type of manic depressive insanity are:

Psychic inhibition;

A painful emotional state associated with indifference;

Aboulia.

As in the case of mania, we distinguish here three forms: simple, delusional, and stuporous depression.

Simple depression.—*Onset.*—Usually insidious, preceded by ill-defined prodromata, such as general prostration, insomnia, anorexia, discouragement.

The *external aspect* of the patient is one of sadness, listlessness, and indifference. The features are drawn out, the head bowed down upon the chest, the arms hanging inertly at the sides or resting upon the knees. The general bearing is slouchy.

Intellectual disorders.—The *psychic inhibition* determines a very marked weakening of the attention and a considerable sluggishness of the associations of ideas. All intellectual exertion, such as the narration of an event well known to the patient or a small calculation, is impossible or can be accomplished only after repeated and painful efforts. Though the lucidity is intact, the *perceptions* are incomplete, uncertain, and often

inaccurate. Everything appears to the patient strange or unrecognizable: persons, objects, and even his own body. Here we have a condition bordering upon delirium. Another step and we have illusions and hypochondriacal ideas.

The disorders of *judgment* are less marked than in mania. The patient is quite frequently conscious of his condition to some extent. He feels that he is changed, ill, and it seems to him that his mind is paralyzed.

Affective disorders.—The mood is sad, gloomy, pessimistic. The patient emits monotonous groans. While the maniac brings disorder into a service of an asylum, the melancholiac brings depression and gloom.

The *moral anæsthesia* is always very marked, and sometimes the patient is conscious of it. He complains of having become indifferent towards everything, of experiencing no affection.

Upon this general state of depression and sadness may be engrafted a spell of anxiety, usually transient. In no case, however, is the moral pain so intense as in affective melancholia. The depressed phases of manic depressive insanity correspond to passive depression.

Disorders of the reactions.—These all result from the marked aboulia present in such cases, which is, in its turn, a manifestation of the psychic paralysis.

The execution of the simplest act necessitates an effort so great at times that the patient gives up the attempt. As in the case of the moral indifference, the patient may be conscious of the aboulia.

Together with the insufficiency of perception, the

aboulia brings about doubt. The patient lives in constant indecision and uncertainty.

Conversation with the patient is most unsatisfactory. Often, in spite of all persistence, the patient remains mute or responds by an unintelligible murmur or whispering. The mental synthesis necessary for an elaboration of a response is impossible for him. In the milder cases, to some very simple questions repeated several times brief answers are obtained.

The voice is scarcely audible, the speech is indistinct. The same words are constantly reiterated, expressing doubt, indecision, sadness: "What is this?... What is going to happen?... This is frightful."

The *writing* is slow; letters are poorly formed, small, disconnected.

Physical symptoms. — These have already been described in connection with morbid depression. I shall review them briefly.

The peripheral circulation is sluggish, the extremities cold and cyanotic. The pulse is small, of low tension, sometimes slowed. The heart-sounds are muffled. The temperature may be subnormal.

The coated tongue, fetid breath, a sense of weight in the stomach, constipation, and anorexia reveal the *poor state of the digestive functions.*

Loss of weight is a constant phenomenon. The return to the normal weight always indicates the end of the attack.

Sleep is diminished, unrefreshing, disturbed by nightmares.

Often the patient complains of *headache* and of *vague pains* in the limbs.

The *cutaneous sensibility* is blunted.

The *tendon reflexes* are often diminished and sometimes abolished.

Delusional depression. — Always secondary to the emotional state, the delusions are preceded by a longer or shorter period of simple depression.

They present the usual characters of depressive ideas and assume the most varied forms: hypochondriacal ideas, ideas of humility, of self-accusation, or of ruin, fear of terrible punishment, etc. Fixed ideas are frequent.

Occasionally these delusions are quite absurd and resemble those of dementia. In other cases they are associated with ideas of persecution and become systematized to a certain extent, constituting a systematized delirium of self-accusation or of persecution, as the case may be.

Hallucinations are rare. The least exceptional are those of vision.

Illusions, though less numerous than in mania, are, however, quite frequent. Following the general rule, the psycho-sensory disorders are the expression of the delusional preoccupations.

The *lucidity* may be transitorily affected. The usual inertia is sometimes effaced and replaced by a certain degree of excitement. In other cases it, on the contrary, becomes more marked, giving rise to a transient stupor.

Depression with stupor.—This form rarely begins as such; it is usually preceded by simple or delusional depression.

The characteristic trait here is complete inertia

associated with absolute indifference to all external impressions. The physiognomy is stupid, sometimes expressing fear.

The usual physical symptoms of depression are here very pronounced.

Almost always the patient becomes negligent and *filthy,* wetting and soiling his bed.

In some cases may be observed a tendency to cataleptoid attitudes.

The stupor may have one of *two different origins:*

(1) The psychic inhibition reaching an extreme limit of intensity suppresses all conscious and voluntary intellectual activity. The indifference is complete, the moral pain, on the contrary, becoming nil; in fact the inhibition is never perceived as a painful phenomenon unless the mind seeks to overcome it; in the stupor the arrest of the psychic functions is so pronounced that the patient makes no attempt to react.

(2) The patient's mind is occupied by an intense, frightful delirium. There is an endless succession of terrifying hallucinations analogous to those of epileptic delirium. The patient is in a frightful nightmare which completely absorbs him, rendering him insensible to impressions of the external world.

Course, duration, and prognosis of the depressed type of manic depressive insanity.—As in mania, the course is irregular, interrupted by temporary remissions and exacerbations. The duration varies within very wide limits, from a few days to several months or even years; the prognosis is always favorable for recovery from the attack, except in cases of grave somatic complications.

Physical improvement, especially an increase in weight, usually indicates convalescence.

The **treatment** consists in:

(1) Sustaining the forces of the patient by rest, especially rest in bed, and by a plentiful and nutritious diet;

(2) Careful watching to prevent suicide;

(3) Calming agitation, when present, by the usual procedures;

(4) Combating the gastric disorders and the phenomena of autointoxication that are so frequent in states of depression.

Moral treatment in the form of suggestion, moderate physical and intellectual labor, etc., is of great service during convalescence, but is absolutely contraindicated during the entire acute period of the disease.

§ 3. Mixed Types.

Attacks of mixed form, properly so called.—Kraepelin has brought to light the features of these cases which are more frequent than is generally believed and in which the symptoms of excitement and of depression appear in the same patient at the same time.

In one group of cases the usual signs of depression are associated with extreme mobility of the attention and a veritable flight of ideas. The patients complain that the direction of their thoughts escapes them. "My head always wanders," said one such patient; "I cannot fix my attention upon anything." Occasionally there is *melancholic logorrhœa*. Many depressed patients show a surprising prolixity, con-

stantly giving vent to incoherent lamentations about their unhappy lives.[1]

In a second group of cases the disease presents itself with the characteristics of *maniacal stupor* (Kraepelin). The psychic paralysis is associated with more or less pronounced excitement: the patient is constantly moving, disarranges his bed, tears his clothes, soils the walls of his room, and at the time shows such complete intellectual obtuseness that even the simplest questions put to him remain unanswered.

Finally, in a third group the inhibition is less pronounced, and the elated mood of mania is replaced by an uneasy, gloomy, irritable one, the basis of which is the sadness, like in the depressed type.

The mixed type sometimes persists through the entire duration of the attack. More frequently it is met with in the transition-periods of circular insanity, where the patient wavers, so to speak, between excitement and depression.

Attacks of double form.—The attack is here constituted by *two periods:* a period of depression and a period of excitement. It usually begins with the depression.

The transition from depression to excitement occurs either suddenly,—a patient goes to bed a melancholiac and rises the next morning a maniac,—or gradually, with an intervening period of the mixed form of manic depressive insanity, as mentioned above. The psychomotor inhibition gradually becomes less prominent and is replaced by excitement; flight of ideas and logorrhœa appear. Finally the sadness disappears and the mani-

[1] Kraepelin. *Loc. cit.*, p. 545.

acal elation replaces it. When a maniac falls into depression the same transition occurs inversely.

§ 4. General Course.—Prognosis of Manic Depressive Insanity. — General Considerations. — Treatment.

Attacks of manic depressive insanity present a very marked tendency to recur. According to the particular forms assumed by the successive attacks, several types of manic depressive insanity are distinguished.

(A) Periodic insanities:

(*a*) Recurrent mania;

(*b*) Recurrent melancholia.

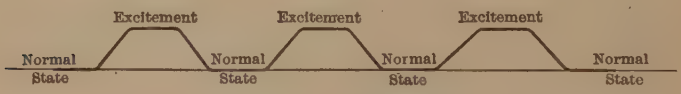
(B) Alternating insanity.

(C) Circular insanity.

(D) Irregular forms.

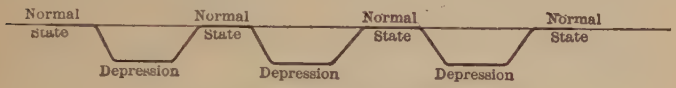
(A) **Periodic insanities.**—(*a*) *Recurrent mania.*—The attacks always present the maniacal type and are separated from each other by normal periods. The number of attacks and the duration of the normal periods vary greatly. Some patients have but two or three attacks during their lives; it is altogether exceptional for an individual to have but one attack, at least when his life is a long one. In all likelihood non-recurring mania does not exist.

In other cases the attacks follow each other at brief intervals and with a certain regularity.



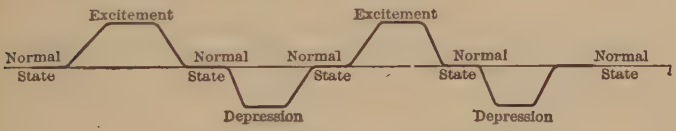
SCHEME I. RECURRENT MANIA.

(*b*) *Recurrent melancholia.*—Less frequent than the preceding, this form is, so to speak, its counterpart. What has been said about mania is applicable to the periodic depression.



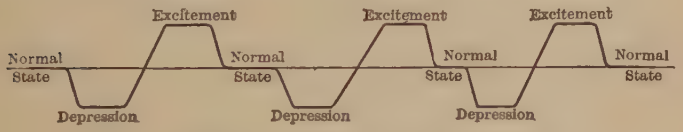
SCHEME II. RECURRENT MELANCHOLIA

(B) **Alternating insanity.**—The attacks of mania and those of depression alternate and are separated from each other by normal intervals.



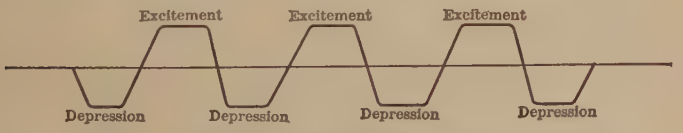
SCHEME III. ALTERNATING INSANITY.

Insanity of double form.—Each attack consists of a period of depression and one of excitement; the attacks are separated from each other by normal intervals.



SCHEME IV. INSANITY OF DOUBLE FORM.

(C) **Circular insanity.**—Attacks of double form follow each other without interruption.



SCHEME V. CIRCULAR INSANITY.

(D) **Irregular forms.**—These are the most frequent. The attacks follow each other without order or regularity, assuming at random the depressed, manic, or mixed form.

Finally, one may observe the periodic, circular, and atypical forms combine themselves in a very complex manner, so that, for instance, a patient with circular insanity becomes a periodic maniac for a time, or a patient whose previous attacks have all been of the manic type presents an attack of depression.

It is quite frequent, though not constant, to see attacks of the same type present each time the same aspect: a manic attack resembles previous ones in the same patient, and it is very probable that the future manic attacks will present the same features.

The **general prognosis of the disease** is not favorable. The attacks have in the majority of cases a tendency to occur closer together, so that the normal intervals become gradually shorter and shorter until they are either totally wanting or almost so.

Manic depressive insanity is a frequent disease. According to Kraepelin it represents about 15% of all asylum admissions.

The immediate **causes** are unknown. Those to which the patients or their relatives attribute the attacks are usually unsubstantiated. It seems to be established that *heredity* is very frequent. Kraepelin has found it in 80% of the cases. It is often similar. One point is certain: manic depressive insanity is a disease of the degenerate. Vague as this conception of the etiology is, we must be content with it for the present for want of a better one.

The *age* at which the first attack occurs is not constant. In most cases it is before the twenty-fifth year, in some before the tenth, and in others after the fiftieth. Quite frequently in women the disease appears with the onset of menstruation or with the first pregnancy.

Diagnosis.—The principal elements of diagnosis are the psychic paralysis associated with the special symptoms of exaltation of the mental automatism, which have already been described; the absence of real intellectual enfeeblement; the recurrence of the attacks with *restitutio ad integrum* after each.

We differentiate:

General paresis by the pathognomonic intellectual enfeeblement, a certain degree of which persists even during the remissions; and by the equally pathognomonic physical signs;

Involution melancholia by the intense and persistent moral pain, which is much more marked than in the depressed form of manic depressive insanity;

Acute confusional insanity by its special etiology, and by the much more marked disorientation;

Delirium tremens by its specific hallucinations;

Dementia præcox by the rapid and pronounced diminution of the affectivity, by the catatonic phenomena which are so frequent in such cases, and by the absence of flight of ideas even in those cases which closely resemble mania.

Homogeneity of manic depressive insanity. Fundamental symptoms.—The conception of manic depressive insanity is due to Kraepelin and constitutes one of the most important recent advances in psychiatry. Although the grouping of such apparently different

and even opposite pathological states as melancholic depression and mania may appear unreasonable on superficial consideration, its legitimacy is nevertheless incontestable and is based upon two principal arguments:

(1) The existence of *fundamental symptoms* common to all forms, manic, depressed, or mixed;

(2) The *alternation*, regular or not, as the case may be, of the phenomena of *excitement and of depression in the same subject.*

(1) *Fundamental symptoms.*—The symptoms described above can be readily divided into two groups.

The first group comprises all the morbid phenomena dependent upon *psychic paralysis*, namely: (*a*) Enfeeblement of the attention; (*b*) sluggishness of the associations of ideas; (*c*) insufficiency of perception; (*d*) pathological indifference.

These symptoms are constant and are encountered in the manic as well as in the depressed forms, though they are usually more apparent in the latter. We have already seen that the mobility of the attention which results from an impairment of that function is one of the fundamental signs of mania. We also know that Kraepelin has shown by psychometric experiments that there is an unmistakable sluggishness of the associations of ideas in mania. These two symptoms determine a diminution of the capacity for intellectual labor, which diminution exists both in the depressed and in the manic forms. Again, perceptions of the external world are disordered alike in both forms, the depressed and the manic. But while in the former the impressions are often incomplete and are clinically expressed by uncertainty, in the latter automatic

associations take the p'ace of the normal ones, which are wanting, giving rise to false perceptions, *illusions*. Neither the maniac nor the melancholiac perceives the phenomena of the external world in their true aspect, but the latter remains in doubt, while the former affirms errors. As to the morbid indifference, it is also present in both conditions; to be convinced of this it is sufficient to recall the perfect serenity with which the maniac receives the news of a misfortune in his family which, in the normal state, would profoundly depress him.

The psychic inhibition expressed by these four symptoms is, therefore, the fundamental and constant disorder which is the common basis of the diverse clinical types of attacks of manic depressive insanity.

The symptoms of the second group are dependent, not upon psychic inhibition, but upon exaltation of the mental automatism, which so often accompanies it. The principal symptoms of this group are: (*a*) Flight of ideas; (*b*) irritability; (*c*) impulsive actions; (*d*) delusions and psycho-sensory disorders; (*e*) fixed ideas and, occasionally, obsessions.

All these morbid phenomena are incidental. Their presence or absence modifies the *aspect* but not the *nature* of the attack. Some appear with equal frequency in mania and in melancholia; such are the delusions and hallucinations. Others are, on the contrary, peculiar to one or the other of the morbid types: flight of ideas, irritability, impulsiveness in mania, fixed ideas in melancholia. But there is no absolute rule in this respect; we meet with depressed cases with flight of ideas, and with maniacs whose delusions are more or less fixed.

(2) *Alternation of excitement and depression in the same subject.*—The close relationship existing between states of depression and maniacal states becomes still more evident when, instead of considering a single attack, we make a study of all the attacks in the same individual. First of all, it is extremely rare for a patient to have only one attack of mania or of melancholic depression in his life. Thus isolated and non-recurring mania or melancholic depression is almost eliminated. In some cases, it is true, the attacks are always manic, while in some others they are always depressed. These two groups, apparently separated by an unfathomable abyss, are in reality connected by a much larger group of double, alternating, circular, and irregular forms, which establish an insensible transition from one to the other. Moreover, a close study of cases shows that the majority of attacks presenting the manic type or the depressed type are in reality attacks of double form. In fact, on careful inquiry we find that almost constantly the maniacal symptoms are preceded by a prodromal period characterized by more or less marked depression; again, we often observe an attack of depression to be followed by a state of excitement which cannot be attributed to any known cause, not even to the patient's prospect of returning to his usual mode of life in the near future. Thus all attacks of mania and of melancholic depression contain in a rudimentary form the elements of excitement and of depression. Circular insanity thus becomes the prototype from which the other forms are derived.

The above considerations show us that, in spite of the apparent diversity of the symptoms, mania, melan-

cholic depression, and their various combinations are not to be considered, as heretofore, as different morbid entities, and that the following conclusion arrived at by Kraepelin is perfectly justifiable:

"The diverse forms which have been described are but *different manifestations of one and the same fundamental pathological process, equivalents*, like the many forms assumed by epileptic paroxysms." [1]

[**Treatment.**—For the treatment of the symptoms which may arise in the different forms of manic depressive insanity the reader is referred to the general discussion on the treatment of insanity in the first part of this book. As to the question of prevention of recurrency the most important point to bear in mind is the necessity of insisting upon the absolute suppression of all forms of alcoholic beverages. A single drink of whiskey has been known to act as the undoubted cause of an attack in a manic depressive individual, and there are some cases in which most of the attacks are attributable to overindulgence in alcohol.

An attempt has been made by Kohn to prevent the recurrence of attacks in cases in which the outbreaks are brief and frequent and occur with such regularity that the date of their onset can be predicted with more or less accuracy. In such cases, beginning several days before the expected attack, the patient is given from 12 to 15 grams of potassium bromide daily until the "danger period" is over, when the dose is gradually diminished and the drug finally discontinued. It seems possible to prevent the outbreaks of excitement by this method of treatment.]

[1] Kraepelin. *Lehrbuch der Psychiatrie*, Vol. II, p. 558.

CHAPTER XIII.

REASONING INSANITY[1]

(KRAEPELIN'S PARANOIA).

REASONING insanity is to be looked upon as the development of a morbid germ the existence of which manifests itself in early life by anomalies of character. These anomalies may be, to use the apt expression of Séglas, "summarized in two words: arrogance and mistrust." At a certain time the pathological tendencies of the subject find their expression in a fixed idea, and the delirium is established.

Onset.—Sometimes it is slow and gradual, much more frequently rapid, almost sudden.

In the first case the dominant traits of the personality become accentuated little by little. The individual grows more and more suspicious and vain and believes himself to be the object of malevolent or, on the contrary, admiring reflections by some people or other. Delusional interpretations become more and more numerous until finally the *fixed idea* appears, an idea of persecution or of grandeur, around which a whole delusional system is subsequently built up.

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[1] Leroy. *Les persécutés persécuteurs.* Thèse de Paris, 1896.—Ballet et Roubinowitch. *Les persécutés persécuteurs.*—Magnan. *Leçons cliniques.*

In the second case the fixed idea is primary to the delusional interpretations. Sometimes it appears in childhood, as in a case of Mangan's: the boy when questioned concerning his vocation replied that he was going to become a pope. Sander has described this form under the name "*paranoïa originaire.*"

Usually the fixed idea appears at a later period, in youth or in adult age. Often it is based upon some real fact the significance of which the patient misinterprets or the importance of which he exaggerates: perfectly justifiable disciplinary measures of which he is the object, loss of money, or sometimes indeed a true injustice, against which, however, nothing can be done, may determine the onset of the disease. Often, also, it has for its basis the extreme credulity of the patient, who takes in earnest a simple pleasantry or some silly remark. "He resembles Napoleon," was once remarked by some one in the presence of a psychopath. Immediately the latter conceived the idea that he belonged to the royal family and that he was "the master of France," and this formed the starting-point of his system of delusions.

Fundamental character of the delirium.—As soon as the theme, that is to say the fixed idea, is formed, the disease develops very rapidly and is characterized by:

(1) The immutability of the fundamental fixed idea;

(2) The absolute faith which the patient has in his delusions;

(3) The *apparent* logic of the delusional system;

(4) The promptness and intensity of the reactions;

(5) The absence or at least extreme rarity of hallu-

cinations and the presence of numerous false interpretations;

(6) The absence of intellectual enfeeblement regardless of the length of time that the disease has lasted.

The following brief abstract from an observation upon a case illustrates these characteristics in a somewhat schematic fashion.

A schoolmaster, who was a man of average intelligence, but suspicious and conceited, failed to receive a promotion which he believed he had a right to expect. The idea that he was the victim of a grave injustice arose in his mind and never left it (*immutability of the fixed idea*). The reasonings of his friends and relatives could not alter his conviction and failed to persuade him from addressing a letter of strong protestation to the school director (*absolute faith in his delusions, promptness and intensity of the reactions*). This producing no effect aside from the loss of his position, he applied to the minister of public instruction, to the president of the republic, to the tribunals. He found no justice, but nevertheless retained confidence in the excellence of his cause, attributing his successive disappointments to the dishonesty of the representatives of authority and justice, who he claimed were in league against him because his high intellect overshadowed them. Everything now became clear to him; he understood the distrust shown towards him and the attention which he attracted wherever he went (*apparent logic of the delusions, false interpretations*). Finally committed, he continued to protest against his persecutors, among whom were included, as might be expected, the physician who treated him and the police officer who arrested

him; the memory still remains perfect and the mind lucid, although the disease has now lasted over 25 years (*absence of intellectual enfeeblement*).

It is often stated that the delusions of paranoiacs are, in a manner, logical; that is to say, when the fixed idea once appears the secondary delusional conceptions are the natural outcome. Thus presented this statement is not correct. In fact, if these patients possessed a faultless logic it would render apparent to them the inconsistency of their fixed idea, which would be immediately abolished. It is quite true that these patients are very apt to use and abuse deductions and syllogisms, which trait has given them the name of the *reasoning insane*. But their logic is only apparent; their reasoning is always tainted with the same original vice that leads them to the systematic rejection of arguments opposing their ideas, and the ready acceptance as reality of hypotheses which arise in their minds as a result of their pathological preoccupations. Hence their delusional interpretations, which become more numerous each day and upon which they base their arguments, and the childish character of the proofs which they accumulate. A vague word or an evasive reply often suffices to convince them that their standpoint of view has been adopted and that their cause has been accepted. The concessions occasionally made by those against whom their delusions are directed, become, in their eyes, ample proof that these people admit their guilt; thus misinterpreted chance occurrences serve to feed the delirium.

Quite frequently their reasoning, subtle and plausible, though radically false, is imposed upon suggestible

individual or upon those of shallow minds. Thus they often have defenders who show more zeal than intelligence. The history of the famous Sandon presents such an example.

Forms.—"According to their specific morbid tendencies paranoiacs may be classed in different groups: the *litigious paranoiacs* (*paranoïa querulens* of the Germans), who prosecute their imaginary rights in the courts; the *hypochondriacal paranoiacs*, who, believing themselves to have been once improperly treated by a physician, bear a grudge against all physicians whom they may meet in the course of their treatment, and annoy them in various ways; the *filial paranoiacs*, who believe that they have found their father in some stranger, whom they constantly annoy with their expressions of tenderness and with their claims. Another group is formed by the *amorous paranoiacs:* Teulat, the lover of Princess de B——, was a splendid example of this type" (Magnan).

To the preceding groups should be added the *jealous paranoiacs*, in whom the delusions assume the form of morbid jealousy; *inventors* who are indignant for the rejection of their fantastic inventions; *mystics* and *founders of religions* who often succeed in gathering beneath their banners an imposing train of feeble-minded, or at least unbalanced, individuals, etc.

The list might be prolonged indefinitely; it is useless, however, for whatever be the nature of the fixed idea, the clinical characteristics of the delirium do not vary.

Diagnosis.—The first question that may arise in the mind of the physician is, Are the ideas of the subject *delusional* or not? It is not always easy to answer

this question. Delusions sometimes appear very probable, while, on the other hand, well-based claims may resemble the delusions of reasoning insanity on account of the obstinacy with which they are urged. Only by a very careful examination of each case can errors be avoided.

The diagnosis is to be based upon the fundamental characters enumerated above; all these characters together are not observed in any other psychosis.

In favor of *paranoid dementia* are intellectual enfeeblement and the more mobile character of the delusions. In *chronic delirium* there is the constant presence of hallucinations and a progressive evolution of the disease. In the *jealous delirium of alcoholism* we find a less perfect systematization of the morbid ideas, the constant presence of hallucinations, the alcoholic stigmata, and the tendency towards recovery.

Prognosis and treatment.—Reasoning insanity is a chronic, incurable affection which, as we have seen, entails no intellectual enfeeblement. The violence of the reactions almost always renders commitment necessary. There are no known means for combating the delusions. Moral treatment has no influence whatever.

CHAPTER XIV.

CONSTITUTIONAL PSYCHOPATHS.

SEXUAL PERVERSION AND INVERSION.—OBSESSIONS.

§ 1. Constitutional Psychopaths.

Among degenerates there are some who present from their childhood evident psychic anomalies which justify their being classed in a separate group,—the constitutional psychopaths.

From this group must be eliminated epileptics, hysterical subjects, paranoiacs, and the feeble-minded, which, in spite of their close relationship to the psychopaths, really form independent categories. Such distinctions are necessary for the avoidance of confusion in the theory and practice of psychiatry.

We shall study first the habitual mental state of the psychopaths, then the anomalies of the sexual life, which, on account of their importance, merit a separate description, and finally obsessions.

§ 2. Habitual Mental State of Psychopaths.

The principal anomalies are those of (*a*) the judgment, (*b*) the character, and (*c*) the conduct.

(*a*) *Disorders of judgment.*—These constitute perhaps the most essential stigma of the psychopath as well as

the most important one from the social standpoint of view. The psychopath *does not see things in their proper light*, hence his singular notions, his paradoxes, his ridiculous enterprises.

Usually he presents a more or less pronounced state of mental debility: weakness of the attention or of the memory, sluggishness of the association of ideas, and poverty of the imagination. In some cases, however, some of the faculties are normal or even brilliant: memory, imagination, or artistic aptitudes. But these abilities cannot be turned to account by reason of the lack of judgment, for almost always, if he is not actually feeble-minded, he is at least mentally unbalanced.

(*b*) *Anomalies of the character.*—These are very varied. Sometimes they consist in a general pessimism: the patient sees only the dark side of life; all occurrences make a painful impression upon his mind.

Usually the dominant note in the character of the psychopath is the extreme mobility of the sentiments. The subject passes alternately from exuberant joy to boundless desolation, from feverish activity to profound discouragement, from affection to hatred, from the most complete egoism to the most exaggerated generosity and devotion. Thus the name *unbalanced* is perfectly applicable to this class of patients.

(*c*) The *conduct* shows the insufficiency of judgment and the instability of the emotions. It is full of contradictions.

The psychopath is apt to pose as a champion of justice, as an avenger of humanity. He is given to anarchistic ideas, seeks to interfere in public affairs,

to become a leader of popular movements, and he succeeds but too often. His conduct is often inconsistent with his ideas of justice and charity, though he fails to see it himself. Theoretically he strives for the good of the universe, practically for the satisfaction of his own egoistic tendencies.

He tries all sorts of occupations, but succeeds in none, and accuses his fate or the injustice of men. He is apt to pose as a victim, while in reality he is what is aptly designated by the popular expression "a ne'er-do-well." If he has no personal resources and if he is not aided by his relatives or by public charity he becomes a *vagabond*.

The psychical anomalies are almost constantly associated with the physical ones, which are known as the *physical signs of degeneration*. Most of these abnormalities may be encountered in normal individuals. Only the combination of many of them in the same subject renders them of importance; they are more numerous among the insane than among normal individuals; they are also more numerous in constitutional psychopaths, epileptics, and hysterical individuals than they are in other degenerates. They possess a great theoretical interest because they are, so to speak, the stamp of degeneration, and are a proof of the fact that the morbid process affects the entire organism. On the other hand, they are not of very great practical interest; therefore I shall limit myself to the mere mention of the principal ones.

Cranial malformations: macrocephaly, microcephaly, scaphocephaly, extreme brachycephaly or dolichocephaly, etc.; cranio-facial asymmetry, harelip, malformations

of the palate; dental anomalies: congenital absence of one or several teeth, irregularities of implantation, malformations (Hutchinson's teeth); anomalies of the auricle: defective lobule, abnormal development of the Darwinian tubercle, absence of the helix; irregular pigmentation of the irides, strabismus; malformations of the external genital organs: cryptorchydism, infantilism, hypo- or epispadias, pseudo-hemaphroditism; anomalies of the length of the limbs: oligodactylism, etc.

Together with the anatomical anomalies should be ranged the numerous tattooings with which many psychopaths are covered, and which usually indicate a morbid mental state.

Tattoo-marks, so frequently observed among the insane and among criminals, are a sort of acquired sign of degeneration.[1]

§ 3. Anomalies of the Sexual Life.

We usually distinguish:

(A) Anomalies of degree: eroticism; frigidity.

(B) Anomalies of nature: sexual perversion; sexual inversion.

(A) **Anomalies of degree.**—*Eroticism* results in venereal excesses and often in indecent acts and attempts at rape.

Sexual frigidity consists in an indifference and even an aversion of the subject to sexual connection; at least to normal sexual connection, for frigidity may be associated with sexual perversion or inversion.

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[1] Martin. *Les tatouages chez les aliénés.* Thèse de Paris, 1900.

A curious and apparently paradoxical fact is its frequency among prostitutes.

(B) **Anomalies of nature.**—*Sexual perversion* consists in the abnormal character of the conditions necessary to excite the sexual desire and sometimes its gratification. Its most common forms are *masturbation, fetichism, exhibitionism, sadism, and masochism.*

Masturbation is very frequent in psychopaths. Often appearing very early, it is to be regarded as a sign and not as a cause of degeneration, though in all probability it accentuates the already existing defects.

Fetichism, occurring almost exclusively in men, is an anomaly in which sexual excitement and gratification are produced by the sight or contact of certain objects, or of certain parts of the female body other than the genital organs.

Fetiches may be (*a*) various objects: articles of clothing (gowns, petticoats, handkerchiefs), toilet articles, laces, expensive fabrics, in a word, all objects used by women; (*b*) parts of the body: the breasts, the hands, the feet, the hair. Several fetiches may be associated in the mind of the same patient.

Moll has justly remarked that the mere fact that an individual has a predilection for some portion of the female body does not in itself constitute fetichism. "One may like by preference a pretty mouth, light or dark hair, or large eyes, without having any genital perversion." Similarly a letter or an object belonging to a woman may produce an agreeable impression by the recollections which it gives rise to. An anomaly is present only when the presence or mental representation of such objects is in itself efficient and provokes

sexual excitement without giving rise to any recollection of some particular woman.

Fetichism often appears at the same time when the sexual instinct becomes manifest. The choice of the fetich depends upon the impression which is accidentally associated with the first genital excitement. While in the normal individual this accidental association leaves no trace, in the fetichist the impression and the excitation form an indissoluble combination, so that the first invariably brings about the second.

The desire to possess the fetich is sometimes so intense as to lead the patient to thefts or to various peculiar acts. One patient of Vallon's was arrested while cutting bits of cloth from the dresses of women who were with him at the time in a newspaper office. Most of the so-called "hair despoilers" are hair fetichists.

Exhibitionism has already been defined. It may be met with in dements and in epileptics, and often takes the form of an impulsive obsession.

Sadism consists in a sense of voluptuousness derived from suffering which the patient witnesses in or inflicts upon his victim. This sense is almost always associated with a state of genital excitation. As is the case with most sexual anomalies, it is more frequent in men.

History contains terrible examples of sadism. Such is that of Marshal Gilles de Rays, who, during a period of eight years, assassinated over eight hundred children,[1] subjecting them previously to defilement and torture. The exploits of the too-well-known Vacher are still fresh in the memories of most of us.

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[1] Quoted by Krafft-Ebing from Jacob, the historian.

Sadism is exercised chiefly upon women and upon children; more rarely upon animals.

Many sadists content themselves with simulation of suffering or with fictitious humiliation inflicted upon their pseudo-victim. The sadism is then *symbolic* (Krafft-Ebing).

Masochism, unlike sadism, is more frequent in women. It consists in an abnormal pleasure which the subject derives from her own suffering or humiliation. To this category belong the individuals who request women to strike and insult them and in whom sexual excitation cannot be produced otherwise.

Sexual inversion consists in the contrast existing between the *physical sex* and the *psychical sex:* the subject presents the sexual tendencies of the opposite sex.

Much more frequent in men than in women, sexual inversion often, but not always, leads to pederasty. Sexual inversion is always congenital. The anomaly is stamped upon the entire psychical and even physical personality of the subject.

Many of these individuals have the character and tastes of the opposite sex. The little boy plays with dolls, and finds pleasure only in the society of girls. Later on the same feminine tendencies persist, and the patient secretly abandons himself to them. We also often meet with men, apparently normal, who in their privacy dress themselves in female attire, cover themselves with laces, or passionately indulge in feminine employments, as sewing, embroidery, etc.

Physically certain anomalies are noted which resemble the normal characteristics of the feminine organism:

considerable development of the breasts and hips, absence of the beard, rounded shape of the neck, etc. Occasionally we observe a more or less marked degree of pseudo-hermaphroditism.

The opposite anomalies are encountered in the female sexual invert.

Some inverts may have normal sexual intercourse, but they derive no satisfaction from it, and always feel an attraction for the homologous sex; often they marry, hoping thus to cure their infirmity, but their attempt is never successful.

§ 4. Obsessions.[1]

An obsession is constituted by an *imperative idea associated with a state of anxiety, there being no marked disorder of the consciousness or judgment.*

We have already studied imperative ideas and learned that they constitute a form of mental automatism.

We have also studied the principal characteristics of anxiety. Its relations to imperative ideas have been much discussed. Westphal, who was one of the first to make a thorough study of obsessions, is of the opinion that the anxiety is *always secondary* to the imperative idea. This opinion is certainly too absolute, for the anxiety may precede the imperative idea and even appear independently of it.

This question seems to be analogous to that which we have considered in connection with allopsychic disorien-

[1] Arnaud. *Sur la théorie de l'obsession.* Arch. de neurol., 1902, No. 76.—Roubinowitch. *Étude clinique des obsessions et des impulsions morbides.* Ann. méd. psych., Sept.–Oct. 1899.—P. Janet. *Les obsessions et l'anasthénie,* 1902, Paris, F. Alcan.

tation and hallucinations. I am inclined in this case to view with favor a similar solution, namely, that imperative ideas and anxiety are two manifestations of the same fundamental psychical disorder.

Intact consciousness and judgment are, as we have just pointed out, the rule in obsessions; the patient is therefore able to realize the pathological nature of the phenomenon. There are, however, some exceptions to this. The subject has sometimes, when anxiety appears in the paroxysm, a sense of a reduplication or of a transformation of the personality. One such patient of Séglas entered a shop "to speak to the clerks, to ask for something, and thus to find new proof that she was her real self."

Obsessions are occasionally accompanied by *hallucinations*, chiefly motor hallucinations, which in a manner *exteriorize* the imperative idea.

Obsessions are of various forms. First of all, three great classes are to be distinguished, depending upon the influence which the imperative idea exercises upon the patient: (1) intellectual obsessions which are unaccompanied by any voluntary activity; (2) impulsive obsessions, in which the idea tends to be transformed into an act; (3) inhibiting obsessions the action of which tends to paralyze certain voluntary acts.

(1) **Intellectual obsessions.**—The consciousness of the patient is occupied either by some concrete idea,—a word, an object, an image of some person or of some scene,—or by some abstract idea, often of a metaphysical nature. To the latter category belong the obsessions in which the subject has a feeling that he does not exist, that the external world is formed of nothing but phan-

toms, etc. The imperative idea is then said to have a negative form. In other instances, without going so far as complete negation, it is expressed by doubt, thus constituting a transitional form between intellectual and inhibiting obsessions.

(2) **Impulsive obsessions.**—These are very numerous. The following are the principal forms:

Onomatomania: an irresistible desire to pronounce certain words, sometimes obscene words (coprolalia). Associated with a tic, *coprolalia* constitutes the disease of convulsive tics (the disease of Gilles de la Tourette).

Arithmomania: an irresistible desire to count certain objects, add certain figures, etc.

Kleptomania: a morbid impulse to steal objects which are entirely useless, or which the subject can easily pay for.

Dipsomania: an irresistible impulse to drink alcoholic beverages of every description (wines, liquors, cologne-water, spirits of camphor, etc.), occurring in a person of temperate habits, who may at other times have even an actual disgust for alcohol. The attacks may recur, and the dipsomaniac may become an alcoholic. He differs radically from the ordinary drunkard, however. "The one is alienated before beginning to drink, the other (the alcoholic) becomes alienated because of his drinking" (Magnan).

Pyromania.—Suicidal and homicidal impulses.[1]—These three obsessions are of equal gravity from a social stand-

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[1] Vallon. *Obsession homicide.* Ann. méd psych., Jan.–Feb. 1896.—Carrier. *Contribution à l'étude des obsessions et des impulsions à l'homicide et au suicide.* Thèse de Paris, 1900.

point of view and may be placed in the same group. The first consists in a morbid impulse to set buildings on fire; the other two require no definition.

In some cases the patients obey their fatal impulses. Vallon has reported a case of a young man who, having a homicidal obsession, struggled against the impulse, but was finally overcome and yielded.

Such cases, however, are rare. Usually the patients succeed by various, and at times singular, means in resisting their impulse. Many take flight at the moment of the paroxysm; others request to be restrained or held; still others voluntarily have themselves committed. One patient of Joffroy's, while walking in the street, was seized with the idea of throwing her child under the wheels of a passing car; she entered a wine merchant's shop, placed her child upon the counter, and took flight.

Similarly, it is very rare for patients to yield to a suicidal impulse. The means they make use of to escape their obsession are innumerable. A woman possessed by the idea of throwing herself out of the window had all the windows of her house protected with iron bars. Another such unfortunate condemned herself never to cross the Seine River to prevent herself from obeying the impulse which she had to drown herself in it.

As to family suicide, it is almost never the result of an obsession, but of a fixed idea which is developed from example.

(3) **Inhibiting obsessions.**—Like the preceding ones, these assume very varied forms.

One of the most frequent is the "*insanity of doubt.*"

Its characteristic feature is the impossibility of the patient's affirming a fact or of making a determination.

Many normal individuals experience this phenomenon in a slight degree. At the borderland of the insanity of doubt we find individuals who often hesitate several times before mailing a letter, in spite of having already several times verified the contents, the address, the sealing of the envelope, adherence of the stamp, etc.

The doubt is likely to assume the form of *scruples*, so frequent in religious persons: a fear of profaning sacred objects, of not being in a holy state of mind, etc.

Closely related to the insanity of doubt are the *phobias*, which are usually groundless and sometimes ridiculous; their absurdity is recognized by the subject himself.

Some patients do not dare to touch any object, constantly wear gloves, wash their hands a hundred times daily, etc. This phobia, which includes also the fear of contracting an infectious disease through contact with contaminated articles (*nosophobia*), constitutes the "*delire du toucher.*"

Others have a fear of being unable to stand up or to accomplish certain movements, such as walking. "In a deserted place, in a very wide street, upon a bridge, in a church, or in a theater the patient suddenly becomes seized with the idea that he will be unable to cross the wide space before him, that he is going to die, or that he is going to be sick." [1]

This morbid phenomenon, known as *agoraphobia*, induces a veritable functional paralysis, and the patient

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[1] Régis. *Manuel pratique de Médecine mentale*, p. 279.

may fall if he is not supported. The slightest support is sufficient to calm him and to reassure him; the origin of the attack is, therefore, purely psychical.

Claustrophobia is the opposite of agoraphobia; it consists in the impossibility for the patient to remain in a closed space.

Erythrophobia, first described by Pitres and Régis, consist in a fear of blushing. These patients do not dare to attract anybody's attention to themselves. This phobia is closely related to ordinary timidity, of which it is occasionally a complication.

Etiology.—The etiology of obsessions comprises two principal factors: neuropathic heredity and general enfeeblement of the organism. Thus we find in most of the victims of obsessions a more or less charged heredity associated with the action of debilitating causes, such as physical and intellectual overwork, pregnancy, lactation, abundant and repeated hemorrhages.

Obsessions are always dependent upon a pronounced neurasthenic state; thus we generally distinguish obsessions associated with congenital neurasthenia, and those associated with acquired neurasthenia, depending upon the preponderance of neuropathic heredity or of the debilitating causes mentioned above. This distinction is an artificial one, for the two groups are connected by an infinite number of intermediate forms.

Treatment.—The *physical* treatment consists chiefly in rest, outdoor life, reconstructive diet; the *moral* treatment consists in hypnotic or simple suggestion. Simple suggestion is the preferable method of the two, as these patients usually derive little benefit from hypnotism.

CHAPTER XV.

EPILEPSY.

From a psychiatrical standpoint of view epilepsy manifests itself by permanent disorders and by paroxysmal accidents.

Permanent intellectual disorders.—These impart to the epileptic personality a peculiar aspect and often lead one to surmise the existence of the neurosis independently of any medical examination. We shall consider separately the peculiarities of the epileptic character and those of the intelligence.

(A) *Peculiarities of the character.*—These are always very marked. The following are the principal ones:

(1) Irritability and variability of moods, egoism, duplicity.

(2) Habitual apathy, sudden impulsive reactions, violent and at times terrible fits of anger.

(3) Lack of consistency between the patient's conduct and his ideas, more rarely abnormal stubbornness and tenacity: "Some celebrated men who are supposed to have been epileptics are more noted for their perseverance than for the grandeur of their conceptions." [1]

(4) Morbid religious fanaticism, not constant, but

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[1] Féré. *Les épilepsies et les épileptiques*, p. 423.

frequent, usually merely ostentatious, with more regard for the rites, ceremonies, and customs, and without any influence upon the morality of the patient.

(B) *Disorders of intelligence.*—Epileptics are *sometimes*, but not often, as claimed by some authors, men of great intelligence. Some hold prominent places in history, in literature, and in the arts: such were Cæsar, Napoleon, Flaubert, and others. Others, though in a more modest sphere, are honorable occupants of offices requiring a lucid intelligence and a sane judgment. These cases are, however, exceptional. Intellectual enfeeblement almost always forms a part of the clinical picture of epilepsy. Often it is *congenital*, for most epileptics are originally feeble-minded; in other cases it is acquired; the manifestations of epilepsy,—crises, vertigo, delirium,—exercise a harmful and lasting influence upon the intelligence. When sufficiently marked, the intellectual enfeeblement becomes *epileptic dementia*.

The degree of dementia depends in a measure upon the number and the severity of the seizures. "It cannot be doubted that the stupor produced by the major attacks is more marked than that resulting from minor ones; and it is certain, as is admitted by Legrand du Saulle, Voisin, Sommer, etc., that major seizures occurring at frequent intervals much more rapidly lead to dementia than do the incomplete seizures." [1]

The two essential features of epileptic dementia are: (1) Its *irregularly progressive* development, with aggravations following the seizures; (2) its being to a certain extent *remittent*, the intellectual enfeeblement

[1] Féré. *Loc. cit.*, p. 227.

becoming less marked as the intervals between attacks become longer.

Paroxysmal mental disorders.—These are either associated with or replace the epileptic seizures. We shall review briefly their principal forms.

(A) *Sensory and psychical auras.*—The first consist in hallucinations or illusions; the second "usually consist in a recollection of either an agreeable or an unpleasant character: perhaps of that of some person or of some important event in the patient's life." [1]

(B) *Unconsciousness accompaning the convulsive phenomena:* though most frequently complete, it is sometimes but partial, giving rise to:

(*a*) *Vertigo,* which is a "dazzling sensation" rather than true vertigo,[2] and which is sometimes, but not always, accompanied by falling and slight convulsive movements. Together with pallor of the face and subsequent anæmia, these phenomena constitute a rudimentary epileptic seizure.

(*b*) *Absence,* essentially characterized by a momentary suspension of all psychic operations. The patient suddenly becomes immoblie, his gaze fixed, his expression vacant; the attack having passed, he resumes his work or conversation at the point where he left off. In some cases the patient continues automatically the work or the movement begun before the attack. A barber mentioned by Besson thus continued during his absences to shave his clients, performing his work just as skillfully as in the normal state.

Exceptionally the *absence* is prolonged for hours, days,

[1] Magnan. *Loc. cit.*, p. 6.
[2] Féré. *Loc. cit.*, p. 136.

or even weeks. Féré rightly includes with these absences that peculiar variety of states of obscuration known as *epileptic automatism*, during which the patient may execute complicated acts, such as taking a journey somewhere, stopping in hotels, etc., without retaining any recollection of them after the attack. Legrande du Salle has reported a curious example of such automatism: an individual who was at Havre when his attack began, found himself on the way to Bombay when he regained consciousness, totally ignorant as to where he was or how he came there.

These states resemble the states of somnambulism, with which they may, in fact, coexist.

(C) *Stupor following the seizures:* This is a constant phenomenon which constitutes in doubtful cases an excellent element of diagnosis (Samt). It varies in duration from several minutes to as many hours.

(D) *Delirium:* This is the gravest manifestation of epilepsy. Sometimes it accompanies a convulsive seizure; at other times it precedes or follows it; still at other times it takes the place of a seizure.

It begins with an accentuation of the disorders of the emotions and of the character. The patient becomes irritable, anxious, and the delirium establishes itself very rapidly, often within several minutes, and never taking more than a few hours for its development.

The fundamental features in the classical form are:

(α) Profound *clouding of consciousness*, with complete *disorientation* of time and place;

(β) *Anxiety* which is sometimes terrible; in some cases it gives rise to violent agitation;

(γ) Numerous *hallucinations*, combined so as to con-

stitute complete scenes, associated with delusions of a painful nature;

(δ) *Purely automatic* and extraordinarily violent *reactions;* the extreme limit of this violence is known as the *epileptic furor.* In this condition the patient often commits crimes of appalling brutality bearing the stamp of absolute unconsciousness. He kills strangers or his own children, riddles the corpse with thrusts of his knife, cuts off pieces and devours them. In some cases, which are rare but very important from the medico-legal point of view, the criminal act appears to be prompted by the usual sentiments of the patient.[1] *Suicide* is sometimes observed;

(ε) *Amnesia,* which is usually absolute, following the attack. All classical descriptions show that the patients are as a rule totally ignorant of the damage or of the crimes which they have committed. This rule, however, has some exceptions. The patient may have a recollection, most frequently very vague, of the acts accomplished by him during the attack. Three classes of cases may present themselves: (1) The subject may retain a complete or a partial recollection of the delirious period, which persists as an ordinary impression; (2) the recollection, present immediately after the attack, may be subsequently effaced, and the patient denies facts which he previously admitted to be true; (3) inversely, the recollection, absent at the time when the patient comes to, may appear later on: the patient admits a fact which he previously denied. The recollections of epileptic delirium are thus similar to those of ordinary

[1] Féré. *Loc. cit.,* p. 144.

dreams. We may forget within a few hours a dream which we remembered very clearly at the time of awakening; or, more rarely, we may, on the contrary, recollect a dream which previously seemed to have left no impression whatever upon the mind.

An attack of epileptic delirium *lasts* from a few minutes to several days. It may be reduced to a *single automatic act.* Like the other manifestations of epilepsy, it may be produced always by the same external influences and assume the same form each time. This is of course far from being always the case.

The *termination* of the delirium is either sudden, following a profound sleep, or gradual, leaving for several hours delusions and hallucinations which persist in spite of the return of lucidity.

The above is a description of the most common, one may say classical, form of epileptic delirium. Another form is occasionally met with in which *ideas of grandeur* occur in place of the painful delusions; these ideas often assume a mystic character and are associated with a state of *euphoria* which may reach the intensity of ecstasy.

The *diagnosis* is very easy when these phenomena appear in an old epileptic; it becomes very difficult, however, when the epilepsy is "masked, or atypical in its course." [1]

There is no pathognomonic sign of epileptic delirium excepting, perhaps, the consecutive *stupor* the importance of which is justly insisted upon by Samt and Moeli.[2] However, this stupor may be so slight as to

[1] Magnan. *Loc. cit.*, p. 2.

[2] Allg. Zeitsch. f. Psychiat., 1900, Nos. 2 and 3.

escape the observation of those witnessing the attack. The previous history of the patient may contain nothing to aid the diagnosis because the delirium sometimes constitutes the first manifestation of epilepsy; on the other hand, epileptics may present mental disturbances which have nothing in common with their disease (alcoholic delirium, chronic delirium). *Only upon the entire symptom complex together with the previous history of the patient can the diagnosis of the delirium or of any other epileptic manifestation be established.*

We may distinguish:

Delirium tremens by the occupation delirium, by the intact autopsychic orientation, and by the stigmata of chronic alcoholism;

States of transitory obnubliation, encountered in chronic alcoholism, by absence of the subsequent stupor (Moeli);

Delirious attacks of general paresis, which may resemble epileptic delirium, by the patient's previous history and especially by the presence of the special physical signs of this affection;

Mania by the flight of ideas;

Attacks of catatonic excitement by the relative conservation of lucidity.

Several authors, Krafft-Ebing among them, have described under the name of *transitory delirium* or *transitory mania* very brief, non-recurring delirious attacks which they consider as a distinct morbid entity. The similarity between these attacks and those of epileptic delirium is such that most alienists consider them as being of epileptic origin, at least in the great majority of cases. This opinion is entertained notably

by Schwartz,[1] Régis,[2] and Vallon.[3] According to these authors the cases of transitory delirium which are not of epileptic origin are attributable to some infectious disease, to alcoholism, or to mental degeneration. In the clinic only a close study of the antecedents of a given case enables one to decide to which of these causes the attack is due.

The *etiology* of epileptic delirium is that of epilepsy in general.

Treatment of epilepsy.—We shall consider separately the treatment of epilepsy itself and that of its psychic complications.

The first really belongs to the domain of neurology, and I shall therefore limit myself to a mere statement of the principal lines of treatment.

The treatment of epilepsy comprises:

(A) Hygienic measures;

(B) Medicinal treatment.

(A) The *hygiene of an epileptic* consists in: (*a*) a diet by which the quantity of toxines produced in the organism is reduced to the minimum: a partial milk diet, combined with white meats, vegetables, eggs, is of great utility; (*b*) the suppression of the use of all alcoholic beverages; (*c*) outdoor life with moderate physical and mental labor; a mild but firm moral direction. An effort should be made to impress it upon the epileptic that he is subject to the common laws and that he is, like everybody else, responsible for his actions.

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[1] Schwartz. *Mania transitoria.* Allg. Zeits. f. Psychiat., 1891.

[2] Régis. *Manuel de maladies mentales.*

[3] Vallon. *Rapport au Congrès d'Angers,* 1898.

(B) *Medical treatment.*—Of all the drugs used in the treatment of epilepsy I shall mention only the bromides of the alkali metals, the efficacy of which is incontestable, and opium, which has gained considerable reputation through the recent introduction of a new method of treatment.

The bromides of sodium and of potassium are administered either separately or in a mixture of the two with bromide of ammonium, which mixture is sometimes known as the "tribromide." The doses vary according to the age, the frequency of the attacks, and the tolerance of the subject. The maximum that may be administered to an adult with *benefit* seems to be from 8 to 10 grams daily. Usually good results can be obtained from moderate doses—from 3 to 6 grams daily.

The action of the bromides seems to be more pronounced when the patient is allowed a "hypochlorization" diet; that is to say, a diet in which the amount of sodium chloride is reduced so far as possible (Richet and Toulouse).

Flechsig introduced several years ago a method of treatment consisting in the administration of increasing doses of opium and finally in suddenly suppressing the drug. This procedure suspends the attacks in some cases for a very long time. Unfortunately their recurrence is always to be feared.

Treatment of the mental disorders.—The first question which arises is: Should an epileptic be committed?—Yes, in two classes of cases: (1) If the seizures are accompanied by marked delirious disorders; (2) If, independently of the seizures, the patient is subject

to violent impulses. Epileptic imbeciles and idiots come under the same rule.

During the delirious attacks the patient is to be constantly watched. Unfortunately rest in bed can be instituted only with great difficulty on account of the profound clouding of consciousness. Prolonged baths and the prudent use of hypnotics are here especially indicated. Refusal of food and threatening collapse are to be treated by ordinary methods.

Responsibility.—An epileptic is not to be considered as absolutely irresponsible except in the following three cases: (1) If the act which he is accused of is committed during a delirious attack; (2) if he is a dement; (3) if he is an idiot or an imbecile.

If the act is committed during a lucid interval and if outside of the attacks the patient presents no evident signs of intellectual enfeeblement he should be considered responsible, at least partially so if an allowance is to be made for his irritable and impulsive disposition.[1]

Similarly, an epileptic ought not be excluded from spheres of social activity unless he presents some permanent mental disorder.

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[1] See the remarkable case reported by Motet in *Ann. d'hyg. publiq. et de méd. lég.*, 1882.

CHAPTER XVI.

HYSTERIA.

To make a complete study of the mental disorders of hysteria would mean a consideration of the entire clinical history of this neurosis, for hysteria is essentially a mental affection. It is, however, the custom to leave a considerable portion of this subject to neurology, reserving for psychiatry the phenomena belonging to its own sphere, not only from its origin, but also from its aspect. The paralyses, contractures, anæsthesias, in a word all the *somatic* symptoms, will therefore be systematically omitted from the following description.

The mental disorders of hysteria are all dependent upon the *predominance of the automatism over the voluntary and conscious psychic operations.* These disorders are divided into the *permanent* and the *paroxysmal.*

Permanent mental disorders.—These constitute the *mental stigmata* of Janet,[1] and impart to the personality of the hysterical subject its peculiar clinical aspect. The following are the principal ones:

(*a*) *Enfeeblement and mobility of the attention,* which no longer directs the associations of ideas, thus leaving uncontrolled the mental automatism. In some cases

[1] Pierre Janet. *État mental des hystériques.*

the patient lives as in a dream in which the images and ideas follow each other without order or logical sequence. In other cases the automatism assumes the form of a fixed idea upon which the affective phenomena and the reactions are dependent. Almost always subconscious, the hysterical fixed idea requires a careful search for its discovery and often cannot be revealed except during the hypnotic sleep.

(*b*) *Disorders of the memory; amnesia of reproduction:* Recollections can not be evoked at will though they may still arise automatically; the amnesia of reproduction is often partial and in its course is subject to numerous remissions and exacerbations; its duration is very variable, from a few minutes to several years; illusions and hallucinations of memory form the basis of *imaginary recollections*, remarkable for their precision, their wealth of detail, and their quite probable character: they result from the extreme suggestibility and often originate from a story the patient has read or from an event narrated in his presence.

(*c*) *Changes in the affectivity and character:* Morbid indifference associated with great variability of moods, egoism, susceptibility, and a morbid desire to attract attention. The hysterical subject thus resembles closely the constitutional psychopath: both bear the stamp of marked mental degeneration, and they belong to two closely related groups of individuals predisposed to mental alienation.

The *morality* of hysterical subjects has been much discussed with special reference to their duplicity and tendency to prevarication. Some see in the falsehoods of the patients nothing but errors attributable to the

amnesia; others, less tolerant, consider these falsehoods as intentional, and see in them a sign of perversity. Both opinions are partly true. It is certain that these patients often commit errors unconsciously, but it is none the less certain that they prevaricate knowingly. The common phrase *hysterical lying* is not an unjustified one.

(*d*) *Anomalies of the sexual life:* Sometimes, much less frequently than is commonly supposed, hysterical subjects present *erotic tendencies;* much more often there is *frigidity* with or without sexual perversion.

(*e*) *Enfeeblement of the will: Aboulia* is a constant phenomenon and is apparent in the apathy and negligence. Though occasionally the patient gives evidence of feverish activity, the duration of this activity is but brief and the subsequent reaction is marked by an exaggeration of the aboulia.

Automatic reactions replace the voluntary ones and are manifested in the most varied forms: pathological suggestibility, catalepsy, passionate impulses, etc.

Episodic mental disorders.—These may either accompany the hysterical attacks or occur independently of them.

(*a*) *Mental disorders associated with the attacks.*—These are:

(1) *Before the crisis:* an accentuation of the ordinary anomalies of the character: sometimes appears a hallucination, a fixed idea.

(2) *During the crisis:* hallucinations, delusions, motor excitement may partly or completely replace the ordinary hysterical phenomena (maniacal or ecstatic form of crisis).

(3) *After the crisis:* a delusional state associated with multiple combined hallucinations which are often of an erotic nature and which may give rise to passionate attitudes and movements.

(*b*) Among the *mental disorders occurring independently of the attacks* an important one is *somnambulism*, spontaneous or induced; it presents the most perfect form of psychic automatism.

Closely related to the states of somnambulism are the *states of obscuration*, which present themselves in two different forms: (α) the stupid form, characterized by mental hebetude and absence of reactions; (β) the agitated form, characterized by violent reactions and excitement associated with confused delirium. Sometimes the excitement is so pronounced as to simulate epileptic delirium. The duration of the attack is scarcely ever more than a few days.

Hysterical subjects may also have acute attacks resembling manic depressive insanity, which are known as *hysterical mania* and *melancholia*. I shall return to this subject in connection with the differential diagnosis.

A *positive diagnosis* of the hysterical mental disorders is chiefly to be based upon the existence of the psychical stigmata mentioned at the beginning of this chapter and of the physical stigmata which are described in all works on neurology: clavus or globus hystericus, ovaralgia, anæsthesia, monoplegia, visceral disorders such as obstinate vomiting, palpitation, etc.

The *differential diagnosis* is sometimes very difficult to make from the following conditions:

(*a*) *Catatonia.*—The problem is a complicated one, since most of the catatonic phenomena may be en-

countered in hysteria, also most of the hysterical symptoms, nervous or psychical, may occur in catatonia. The only certain differential feature is the *intellectual enfeeblement*, which is almost constant in catatonia and altogether exceptional in hysteria. Before its appearance the diagnosis remains doubtful, and can only be surmised from the following features: psychic disaggregation is more marked in catatonia, resulting in true incoherence; the symptoms in catatonia have a more stable character; stereotypy is more marked; the moral indifference is more pronounced; there is no subconscious fixed idea.

(*b*) *Epilepsy.*—The unconsciousness during the seizure, the subsequent amnesia, which is more constant and more complete in epilepsy than it is in hysteria, and the nature of the convulsive seizures serve as a basis for the diagnosis, which is in some instances very difficult to establish. Moreover it seems that hysteria and epilepsy may exist together in the same subject.

(*c*) *Mania.*—Here the excitement is usually more continuous and less affected by external influences, such as the presence of spectators, which always increases the excitement of hysteria; the flight of ideas is much more distinct; hallucinations are more rarely seen.

(*d*) *Melancholic depression.*—The depression is continuous and durable and is independent of external influences, while in the hysterical patient a pleasantry or a word of encouragement often suffices to dissipate, at least momentarily, the melancholic phenomena. The manifestations of psychic automatism are much less marked in melancholic depression than in hysteria.

The *prognosis* of hysteria is grave. The episodic

mental disorders usually subside, either spontaneously or under the influence of treatment; but the hysterical disposition remains and renders the recurrence of the attacks probable.

The *treatment*[1] consists in rest, isolation, hydrotherapy, and therapeutic suggestion, which, with or without hypnosis, produces marvelous results; also attention to the somatic disturbances so frequent in hysteria is of importance.

Excitement is to be treated by the usual methods. Isolation often produces very happy results.

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[1] Sollier. *L'hystérie et son traitement.* Paris, F. Alcan.

CHAPTER XVII.

ARRESTS OF DEVELOPMENT.

Like the constitutional psychopaths, the feeble-minded belong to that class of degenerates who enter into life with a mental disorder which is not merely potential but actual.

Etiology.—All the causes mentioned in the chapter on general etiology as being capable of giving rise to degeneration may bring about an arrest of development, if this action is exercised during intrauterine life or during the early years of extrauterine life. In the latter case the affection is in reality an acquired one, but is clinically practically identical with the congenital form.

Two factors, however, deserve special mention: *alcoholic heredity* and *syphilitic heredity*. Alcoholism in all its forms is encountered in the parents of idiots and imbeciles: chronic alcoholism, drunkenness at the moment of conception or during pregnancy, etc. Recent statistics compiled by Bourneville show that 48% of idiots and imbeciles are the offspring of alcoholic parents.

Syphilitic heredity may act in two ways: either by giving rise to a congenital anomaly through intrauterine disorders or by causing the appearance of meningeal

and cerebral lesions during the first months of life of which the arrest of development is the consequence.

Two kinds of arrest of development are distinguished: (1) A general arrest of development involving all the psychic functions; three degrees are usually recognized: *idiocy, imbecility,* and *feeble-mindedness;* (2) an arrest of development which is almost wholly limited to the moral sphere—*moral insanity.*

§ 1. General Arrest of Development: Idiocy, Imbecility, Feeble-mindedness.

First Manifestations.—According to Sollier, who has made an extensive study of these anomalies, the principal early manifestations are:

(*a*) A difficulty in taking the breast; it seems each time that the act is a new one to the child;

(*b*) Violent, continued, and unprovoked *crying;*

(*c*) An impossibility of fixing the gaze;

(*d*) A lack of expression in the physiognomy.

Later on, at the age when intelligence becomes manifest in normal children, the signs of psychic insufficiency become more and more evident. The child is sad, surly, or, on the contrary, extraordinarily noisy and turbulent. It does not speak or it may be able to say only a few words at an age when other children already dispose of quite a vocabulary. Still more important than the language of transmission is that of reception. The chief characteristic of the congenital imbecile is the restricted number of words, not which he can pronounce, but *which he can understand.*

Physically, arrest of development manifests itself in

a retardation of the growth, of the development of the hairy system, and especially of learning how to walk.

Symptoms.—As with the growth of the child the psychic functions become of greater importance, their insufficiency becomes more apparent and manifests itself in the impossibility for the subject to derive any benefit from education.

This incapacity is due to *absence or weakness of attention* (Sollier), so that the degree of atrophy of this faculty can serve as a basis for the classification of arrests of development. Sollier distinguishes:

(1) *Absolute idiocy:* complete absence and impossibility of attention;

(2) *Simple idiocy:* weakness and difficulty of attention;

(3) *Imbecility:* instability of attention.

We may add also *feeble-mindedness*, in which, as in imbecility, the attention is unstable, though to a less marked degree.

Atrophy of the attention is, therefore, the most important symptom of arrest of psychic development.[1]

Around this is grouped a certain number of other symptoms which I shall mention briefly:

(*a*) Sluggishness and lack of variety in the psychical processes, entailing an insufficiency of judgment and an absence or rarity of generalized ideas. The latter two symptoms are most striking in the feeble-minded.

(*b*) *Weakness and inaccuracy of the memory.* An idiot or an imbecile is seldom able to relate correctly an event that he has witnessed. The details and even the facts

[1] Sollier. *Psychologie de l'idiot et de l'imbécile.* Paris, F. Alcan.

themselves are altered. Quite frequently imbeciles relate imaginary recollections which indicate by their monotonous and childish character a very poor imagination.

(*c*) *Moral indifference* associated with *morbid irritability* (this symptom is to be looked upon as an expression of a disorder of the moral sense), *impulsive character of the reactions, and extreme suggestibility of the will;* this latter disorder together with the weak memory, insufficient judgment, and atrophied moral sense renders the testimony of an idiot or an imbecile acceptable only with extreme caution.

(*d*) *Disorders of language.* In the lowest grade of idiocy language is absent. In simple idiocy and in imbecility we usually find:

(1) A *vocabulary* that is more restricted than in normal individuals of the same age and under the same conditions;

(2) Errors of *syntax* which are at times very curious. Some idiots make use of faulty construction: "Me no sick," etc. Others never use the pronouns *I*, *you*, *he*, etc., referring to themselves and to others by their proper names. One imbecile, Elise B., used to say, "Elise B. is going to bed." The substitution of a pronoun for a proper name is an intellectual operation impossible for these patients. In the pronunciation we often notice *lisping*, *stammering*, and *stuttering*. Written language, necessitating very complex associations, is still less developed than spoken language. Many imbeciles are unable to read, and only few are able to write properly. Writing necessitates delicate movements in addition to the difficulties of reading. *Mimicry*, the most elemen-

tary of all forms of language, is least affected. Usually, however, it has not the same liveliness as in the normal individual. A single glance suffices to distinguish the idiot who does not speak from the intelligent deaf-mute.

These are the essential and fundamental features of idiocy and imbecility. They may present all degrees, from complete idiocy in which the mentality of the individual is inferior to that of an animal to slight feeble-mindedness which is compatible with a normal social existence. These extremes are connected by an infinity of intermediate degrees, so that no distinct lines of demarcation can be drawn between idiocy, imbecility, and simple feeble-mindedness.

All the mental faculties are not always atrophied to the same extent. The *memory* is sometimes quite good, occasionally even exceptionally so. "Forbes Winslow (quoted by Sollier) reports a case of an idiot who could recall the dates of death of all those who died in his town during thirty-five years, giving correctly their names and ages." Some imbeciles present relatively remarkable aptitudes for the arts, especially for music. They retain with surprising facility complicated pieces of music, and are able to reproduce them passably well on an instrument. Still they never acquire a true talent, for they lack the *attention* which is necessary for the development of their natural aptitudes.

Physically, all the anatomical stigmata of degeneration may be met with in idiots and imbeciles.

The sexual instinct is absent (lowest type of idiocy), or abnormally developed, or perverted. Many idiots and imbeciles are addicted to masturbation, to pederasty,

or have a tendency to commit acts of rape, exhibitionism, sadism, etc.

Filthy habits are frequent: the patients soil and wet themselves. Often this symptom is only nocturnal and can be combated by constant supervision.

Complications.—These are somatic and psychical.

The former arise from defects of development or from a low resistance of the organism. They are, on the one hand, the malformations constituting the physical signs of degeneration, and, on the other hand, various infections occurring upon a basis of poor nutrition of the tissues.

Among the sequelæ left behind by the infections a prominent place belongs to permanent lesions of the brain and cord, which give rise to phenomena of paralysis, atrophy, etc. (infantile hemiplegia, infantile palsy, strabismus). These disorders are often coincident in time with the mental disorders and are dependent upon the same causes.

Epilepsy forms a transition between the somatic and the psychic complications. The frequency of infantile convulsions in the histories of those of arrested development in itself shows the close relationship existing between epilepsy and arrested development. Epileptic seizures are frequent among idiots and imbeciles. The commotion which the seizures exercise upon the psychic function leads to an accentuation of the mental debility. The imbecile becomes, in addition, an epileptic dement.

Most of the *mental maladies* may occur in those of arrested development, though this is not very frequent: general paresis, dementia præcox, manic

depressive insanity. All these affections render even more apparent the nature of the soil by the poverty and emptiness of the delusions and the absence of all systematization.

Prognosis, diagnosis, treatment.—Arrests of development are not diseases, but infirmities; their prognosis is, therefore, grave. Education may, however, exercise a favorable influence upon some subjects.

The elements of *diagnosis* are to be found in the history of the subject; the absence of any vestige of more complete intellectual development previous to the time of examination must be established.

The principal indications for *treatment* are: to develop the subject's *attention*, and to give a proper direction to the automatism which dominates his reactions. This aim is unfortunately more easily pointed out than attained. Considerable success has, however, been obtained in recent times by means of special methods of education.

§ 2. Moral Insanity.

By reason of its complexity the moral sense is one of the most delicate and most vulnerable functions of the mind. Thus we find it altered in most of the psychoses, especially in those accompanied by intellectual enfeeblement.

The symptoms which alterations in the moral sense give rise to do not merit the name of *moral insanity* unless they exist in an isolated state or at least are not associated with any other apparent mental disorder. I say *apparent*, because close obser-

vation almost always reveals the existence in the subject of certain physical and psychical peculiarities which show that the anomaly extends beyond the moral sphere.

Moral insanity finds early expression in perversities of the character and conduct. The child is naughty, cruel, deceitful, irritable, violent; or he is, on the contrary, taciturn and dissembling.

Education totally fails to modify such natures. The moral sense is not built up upon notions acquired through intellectual culture. It is the result of a special sensibility, of a function which the psychical organ lacks in moral insanity. "When this apparatus is absent, the most favorable surroundings fail to exert their influence." [1]

As the child becomes a man, as he comes into more direct contact with society, his infirmity becomes more manifest.

The dominant feature of moral insanity is a profound egoism combined with a complete indifference with regard to good and evil.

The exclusive aim of such an individual is his pleasure or his own interest (and quite often he has but very poor judgment as regards even his own interests), and to reach this aim he does not hesitate to use any means or any expedient. He has neither any sentiment of honor nor any respect for the truth. His unique preoccupation is to escape conviction and punishment.

Cruel and malicious toward his inferiors and towards

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[1] Bleuler. *Der geborene Verbrecher. Eine kritische Studie*, 1896. p. 21.

the weak in general, he is cowardly towards anybody who is above him. In the asylum or prison he quite readily submits to the rules and to the discipline and does not abandon himself to his morbid propensities until he regains his liberty.

Undoubtedly there are cases of moral insanity with a sane judgment and a strong will. These, freed from the scruples which might interfere with their liberty of action, occasionally have a brilliant career.

Almost always, however, other psychical anomalies are present in addition to the disorders of the moral sphere. The most frequent are:

(*a*) *Weakness of judgment:* the subject realizes but imperfectly the possible consequences of his acts, and in spite of all his precautions he ultimately enters into conflict with the law. "The thoughtlessness of criminals" is well known.

(*b*) *Absence of perseverance:* this prevents the utilization of the faculties which the patient may possess and which are in some instances very well developed.

(*c*) *Impulsiveness:* the moral insane readily yield to the first impulse, so that it is quite difficult in practice to distinguish them from the impulsive criminals. The best criterion is the existence of subsequent *remorse* in the latter. Unfortunately it is impossible to determine its true degree of sincerity. It is well known with what consummate art hardened criminals simulate the most touching remorse.

(*d*) Diverse psychical anomalies: obsessions, morbid emotionalism, etc.

The physical signs of degeneration are frequent.

Commitment is in most cases necessary. Agricultural colonies, properly conducted, are admirably suited for this class of patients. Moral treatment, properly so called, has no effect.

APPENDIX.

A SCHEME FOR THE STUDY OF THE HISTORY AND OF THE MENTAL AND PHYSICAL STATUS OF CASES OF MENTAL DISTURBANCE.[1]

I. FAMILY HISTORY.

THE FAMILY IN GENERAL (COLLATERALS, ASCENDANTS, DESCENDANTS).	Mental diseases.—Nervous diseases. Anomalies of character and of morality.—Irritability or mobility of moods.— Excessive originality; eccentricities in the conduct.—Criminality. Congenital malformations. Arthritic manifestations.
THE ASCENDANTS IN GENERAL (GRANDPARENTS AND PARENTS).	Intoxications: Alcoholism, morphinism, etc. Infectious diseases, in particular syphilis and tuberculosis. Overwork.—Grief. Traumatisms, especially those of the cranium.

[1] [As the book was going to the press, with all the plates ready, I received from the author a copy of the second French edition. Most of the additions consist in citations of illustrative cases. This scheme may prove of considerable utility in the study of cases, and I have therefore embodied it in the translation in the form of an appendix.—A. J. R.]

PARENTS (FATHER AND MOTHER).	Is the patient an illegitimate child? Abnormal conditions in the parents at the moment of conception: overwork, worry, grief; intoxications, especially drunkenness; prodromal or convalescent stage of mental or somatic disease; confirmed psychopathic state. Advanced age of one or both parents; excessive difference between the ages of the two parents.
MOTHER.....	Conditions under which pregnancy has developed and terminated: abnormally severe pains; uncontrollable vomiting; persistence of menstruation; infectious diseases; albuminuria; eclampsia; nervous and mental accidents: change of disposition, obsessions (morbid longings), hysterical or epileptic phenomena, chorea; overwork; traumatisms; violent or prolonged emotions.
DESCENDANTS.....	Sterility. Abortions or miscarriages in the patient or in the patient's wife. Still-births.—Death of children at an early age. Signs of syphilis in the children. Nervous disorders: convulsions, etc. Anomalies of development, physical or mental.

II. PERSONAL HISTORY.

BIRTH.....	Premature birth. Is the patient one of a pair of twins? Character of labor: duration, abnormal presentation, forceps operation, etc. Vitality at the moment of birth.

Physical development.

- Hygienic conditions in infancy and childhood.
- Growth: rapid, retarded.
- Development of the hairy system.
- Dentition: precocious, retarded, accompanied by nervous accidents.
- Age at which the child began to walk.
- Age at which the child became cleanly (with regard to urination and defecation).

Puberty.....

- Date of onset.
- Accompanying changes of the character.
- Mental or nervous complications: epileptic, hysterical, or neurasthenic manifestations; obsessions, scruples; psychoses.
- Masturbation.

Psychic development.

- *Language:* At what age has the patient begun to speak and especially to understand?
- *Studies:* Has he learned easily to read and write? Was he attentive? Was he considered intelligent?
- Degree of success in college or in apprenticeship, as the case may be, and further in the pursuit of his occupation.
- *Affectivity:* Indifference; perversion,—cruelty towards others or towards animals; exaggerated emotional irritability; phobias; morbid affection for animals.
- *Disposition:* Excessive sensitiveness; jealousy; impulsiveness; changeable moods; irrational conduct: numerous bizarre occupations; changes of residence or of occupation.

Conditions of existence.	Occupations followed by patient with special reference to dangers involved.—Intoxications: alcoholism, morphinism, lead-poisoning (house-painters), phosphorus-poisoning, gas-poisoning, etc.—Infections: syphilis (prostitution), tuberculosis (in nurses), etc.—Overwork.—Want of sleep.—Poor ventilation. Physiological wants. Bad moral influences. Celibacy.
Pathological antecedents.	Diseases of childhood: Infections,—measles, etc., inherited syphilis; infantile marasmus; rickets; nervous and mental accidents in early childhood,—convulsions, meningitis.—Cranial traumatisms. Later childhood, youth, and adult age: Diverse somatic and psychic affections. In the cases of previous attacks of mental disease inquire carefully as to the supposed causes, the symptoms, and especially as to the termination of each attack (mental enfeeblement or complete recovery). Anomalies of the sexual instinct. In women, menstrual disorders: irregularities, accompanying nervous or psychic disorders, etc.

III. PRESENT ILLNESS.

Assigned causes, physical or moral.

Mode of onset. sudden or following prodomata.

First symptoms of mental disorder noticed by patient or by his relatives or friends.

Symptoms and course of the disease up to the time of examination.

Treatment which the patient has received and the results obtained.

IV. CLINICAL EXAMINATION.

(*a*) External Aspect.

Facial expression: indifferent. / sad. / happy. / irritated. / silly.

Manner and attitude: dejected. / humble. / haughty. / aggressive.

Address: friendly. / mistrustful. / scornful.

Dress: neglected. / neat. / eccentric.

(*b*) Mental Status.

Consciousness: paralyzed. / weakened.

Disorientation: autopsychic. / of space. / of time.

Perception: insufficiency. / illusions.

Hallucinations: conscious; taken for actual perceptions.

Attention: paralyzed. / mobile.

Does the patient grasp questions readily?

Associations of ideas: sluggishness. / flight of ideas. / incoherence. / monoideism.

Mental images: effaced. / confused.

Imagination: exalted. / diminished.

Memory: exalted (hypermnesia). / diminished (amnesia).

Amnesia: form. / extent. / mode of onset. / origin (for instance, a fixed idea).

Affectivity: abolished. / diminished. / exaggerated.

Weakening of the moral sense.

- *Sexual instinct.*
  - weakened.
  - exaggerated.
  - perverted.
- *Judgmeni.....*
  - absence of, or imperfect insight; imperfect appreciation of his own actions, false interpretations.
- *Delusions.....*
  - character of: melancholy ideas, persecutory ideas, etc.
  - Correlations:
    - incoherent delirium.
    - systematized delirium.
  - Degree of accuracy of systematization.
  - Evolution:
    - changeable delusions.
    - fixed delusions.
    - more or less rapid progress of systematization.
    - disappearance (convalescence).
  - Relation to hallucinations.
- *Reactions*
  - Intensity
    - paralyzed (stupor).
    - weakened.
    - exaggerated (impulsiveness).
  - Origin
    - emotional: passionate impulses.
    - exclusively automatic:
      - simple impulses.
      - stereotypy.
      - negativism.
    - hallucinatory.
    - delusional.
  - Consequences
    - reactions of defense
      - means of defense (breastplates, etc.).
      - mystic procedures (incantations, etc.).
    - aggressive tendencies
      - towards others
        - legal procedures.
        - assaults.
      - towards self
        - suicide.
        - self-mutilation.
      - towards inanimate objects
        - destruction of furniture, breaking of window-panes incendiarism, etc.

- *Language.*
  - spoken
    - rapid or slow, hesitation.
    - tone
      - monotonous.
      - declamatory.
      - affected.
      - supplicating.
      - threatening.
    - voice
      - loud.
      - inaudible.
  - written
    - rapid or slow.
    - peculiarly shaped letters.
    - orthographical errors.
  - content (spoken and written)
    - restricted vocabulary.
    - profanity.
    - affectation.
    - reiterations.
    - stereotypy.
    - neologisms.
  - mimic
    - absence.
    - exaggeration.
    - affectation.

(*c*) Physical Condition.

- *Principal nervous disturbances.*
  - Sensibility
    - anæsthesia.
    - hyperæsthesia.
    - paræsthesia.
  - Reflexes
    - tendon.
    - cutaneous.
    - mucous.
    - pupillary.

    (exaggerated. / diminished. / abolished.)
  - Motility
    - weakness.
    - incoordination.
    - absence of the sense of fatigue.
  - Trophic disorders.
  - Sleep
    - absent.
    - diminished.
    - permanent somolence.
    - disturbed by nightmares.

Great organic functions [digestion, circulation, respiration, excretion, etc.].

General nutrition.

Anatomical stigmata of degeneration.

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